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Critting the Crit in the Education of Architects: From Bauhaus to Bolton Street

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Critting the 'crit' in the education of architects:

from bauhaus to bolton street

A thesis submitted to the Dublin Institute of Technology in part fulfilment of the requirement for the award of Masters (MA) in Third Level Learning and Teaching

By

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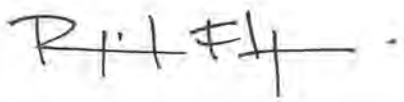
Declaration

I hereby declare that the material which is submitted in this thesis towards the award of masters (MA) in Third Level Teaching and Learning is entirely my own work and has not been submitted for any academic assessment other than part fulfilment of the award named above.

Signature of candidate



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Abstract

This investigative study is concerned with examining the current methods of assessment of architecture students in the system known as the 'crit' and the associated methods of giving students feedback on their designs in a public forum.

The aim of the research is to identify the main weaknesses of the crit system and to explore alternatives which perhaps would have more sustainable and transparent methods of assessment and feedback.

Personal motivation for the research sprang from concerns regarding both the effectiveness of the crit from the pedagogical perspective of student learning and from concerns about it as a transparent and useful system of assessment for professional architects. Policy concerns in the research were informed by three immediate issues: an in-house concern regarding the relatively high number of examination appeals from architecture students compared to other design degrees which use a crit system, a national concern, based on the NQAI requirements that modules be expressed in terms of learning outcomes, and more global concerns for the five year undergraduate system of training architects in Europe generally arising from the preference for a three-year plus two-year degree systems manifest in the Bologna Accord.

The research approach locates itself broadly within the postmodernist critical theory framework which acknowledges the complexity of the issues under study and the need for both the 'distant' and the 'close-up'. The research design is basically 'bricolage' which allows for nonlinear exploration of discrete but related aspects of the study and which facilitates a range of researcher stances including detached interpreter, insider-intervener and dialogic commentator. A literature review, pedagogic interventions in class-based teaching and in-depth interviews with architecture graduates from DIT and other colleges were used.

The research findings show a remarkably similar experience of architecture education through the crit system with broadly negative opinions on the value of the crit as a learning experience. The findings from the class-based interventions indicate that the crit system which involves large numbers of students and staff is highly ineffective compared to small group crits and that the combination of oral and visual assessment feedback on designs is more effective than the traditional oral feedback system.

The research offers a number of proposals regarding improvements to the crit system and suggest areas where further research is urgently required to make the system of assessment more effective and transparent and to ease the training system for architects towards the inevitable structural changes resulting from the Bologna Accord.

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Table of Contents

List of figures

CHAPTER 1

INTRODUCTION

The researcher's positionality

I teach in the architecture course in DIT and most of my contact hours are in the design studio. I graduated as an architect in 1986 from UCD and after qualifying I worked in the U.S. for a number of years. My experience abroad made me realise that the same system of education for architects was widely used in most countries. In the practice office in the U.S. there were graduates from Germany, France, Switzerland, Holland, Argentina and Chile as well as American graduates from the universities of Harvard, Yale and Cornell. It was interesting that all the architects from many different cultures had proceeded through, or been processed through, a very similar method of education. The primary method used for both learning and assessment in all of these contexts was the 'crit'. One only has to say the word 'crit' to an architect and straight away, like a universal language, the architect, from whatever nationality you are talking to, knows what you mean. What is interesting is that this method of education has been dominant and unchallenged for so long! The role of the architect and the available technology, both in terms of teaching and practice, has altered dramatically over this period of time, yet the teaching method has remained relatively untouched. The time gap between my education to my current teaching role stretches to more than fifteen years, and despite fairly radical changes to the profession and the needs of industry, the same method of exploring architecture still applies to the teaching of

architecture. This largely universal method of teaching and exploring design seemed a worthy topic for exploration both as means of reflecting critically on my own teaching methods, and of critiquing the implications of using the 'crit' as a method of teaching, assessment and giving feedback to students.

The voice in the research is my voice as an insider in the profession as a practicing architect and as a lecturer on the teaching team. The research then posed the challenge of being able to use this inside information to inform the research in a constructive manner. I have tried throughout to be genuinely ethical in the research process and to report as honestly and objectively as my insider status would allow.

Broad research aim in context

The thesis examines three contexts: the macro, the national and the micro. The macro context includes: the Bologna Accord and the proposed change from a five year *ab-initio* undergraduate degree to a three year undergraduate with a two year follow on degree. The national and institutional context centres on the NQAI requirements that all programmes of study are to be structured in modules with specific measurable learning outcomes defined in terms of knowledge skills and competence and the DIT requirement that all programmes become semesterised and modularised. The micro context at student and lecturer level relates to a pedagogic practice that leads to among the highest number of appeals following issue of examination results.

This thesis does not claim to provide solutions, or even definitive guidelines on any of these contextual issues. What it sought to do from the start was to explore the main challenge – the pedagogy of the crit- with the faint expectation that the research might begin a discussion about the teaching and practice of architecture that might make the

transitions required under the Bologna process and the modularisation process less stressful than it could otherwise be.

The thesis focuses on the methods of assessment and feedback for students of architecture at Dublin Institute of Technology (DIT) in the process known as the 'crit'. At present there are two courses of architecture in Ireland, namely the B.Arch degrees in University College Dublin (UCD) and Dublin Institute of Technology (DIT). Both rely on similar methods of providing students with feedback and assessment through the use of 'crits'. The study examines how these aspects of assessment and feedback affect the key stakeholders - the students, staff and graduate architects. The study explores the following: (i) the evaluation by students of minor changes in the teaching process which lead them to learn or not to learn, (ii) the impact the crit experience has on their later career as architects and (iii) the patterns of student/ staff interaction in the crit primarily from the student's viewpoint.

The study also explores how the current method of dealing with crits can be improved to promote a 'sustainable approach' to learning in the context of third level education of architects. 'Sustainable approach' in this context is the ability to transfer the imparted knowledge gained in a crit to other aspects of the student's work. This question was examined through the use of qualitative interviews and one day micro-research actions which included the observation of the sociometry of the crit.

The aim of this thesis is to explore the current widespread use of oral feedback and assessment given to students of architecture. This system known as the 'crit' (short for criticism) is used almost universally as the primary method of educating architects in the design process.

Having taught the first year cohort recently I was reminded of how much of a leap the change from the secondary school 'behaviourist' model to the freer third level system is. This is particularly true of the architecture course where so much of the student's progress

through the college is made by their own project work as opposed to a prescribed series of lectures. It has been described by one ex-tutor as going from 0 to 60 mph in 3.4 seconds. The project work is unique in that it is the students' own work. It has its strength in that it is far removed from the 'banking of empty jugs' model of education as described by Paulo Freire and ideally it should allow the students the opportunity to claim ownership of their education. However its weaknesses lie in the cult of the personality, the promotion of one student over another and the dangers of the 'star' system. Part of the exploration in the thesis has also dealt with how this method of education feeds in to the culture of the architect and how they see themselves in society and equally of interest how they wish to be perceived.

My thesis aimed to understand this assessment process as it is at present and explore possible alternatives. The thesis has also been an opportunity to examine my own teaching methods, in the real-world context of everyday practice.

Summary of chapters

Chapter Two outlines the justification of the research and the research aims and objectives. It also looks at the historical, professional and ideological background to the term 'architect' and the emergence of the 'crit' as a conventional method of instruction.

Chapter Three outlines the theoretical stance taken in this thesis and defends the methodologies and methods used.

Chapter Four reviews the relevant literature with a view to establishing possible new approaches to assessment and feedback. It focuses in particular on the organisation of the crit and the knowledge being imparted in it.

Chapter Five is a presentation of the findings of the interviews where a thematic analysis of the transcript of the interviews is presented.

Chapter Six presents the outcomes of micro-research interventions in the class process and the results of student evaluation of the interventions.

Chapter Seven explores the commonality and diversity of the issues uncovered and establishes the principles drawn out from the research.

Chapter Eight outlines the conclusions drawn from the study and the objectives of the study are related to the general findings. The benefits of the study from a personal point of view are explored and the benefits to both students and profession are outlined.

The qualitative intreviews were conducted with recent graduates and experienced archiects. The recent graduates were an obvious choice as it was necessary to gain a fresh perspective on the learning process. The more experienced graduates were interviewed to explore the question again and to see if there was some advantage to the crit that may become apparent as one gained more experience.

The one day micro-research interviews occured within DIT during the term time in 2004 and were designed to see what impact relatively small changes would have on the learning experience of the students

The writing up of the thesis was used as an opportunity to reflect on how the process of the crit can be improved further and not simply as an exercise in providing a definitive approach to giving students feedback. Part of the reflective process has been the keeping of a journal entries, both observing how the current system operates in practice and also how some early intervention has worked. This is in keeping with the overall epistemology where the aim is not to attempt to prove a final answer to developing feedback but instead to use

the research paper as an exploratory model into teaching methods. The micro research interventions allowed for such an approach and also gave me the chance to develop the ideas further beyond the lifespan of this research thesis. The research will more than likely initiate more reflection and discussion and from this more research will probably emerge.

CHAPTER 2

CONTEXT, RATIONALE, AIMS, OBJECTIVES AND ETHICS

Introduction

The phrase in the title from 'Bauhaus to Bolton Street' was chosen not just for the obvious alliteration but also to place the current education process of the crit in its historical context: professionally and ideologically.

The School of Architecture in the DIT aims to educate students for the discipline of architecture. While it is acknowledged that not all students will pursue careers as architects after graduating, the School sees itself as primarily concerned with educating the students for future careers as practicing architects (DIT Course Document, 2001). This is self-evident in the manner that the career path of the student and professional architect are intertwined. The architect, to engage in private practice, must have a Part III qualification which is awarded by the Royal Institute of Architects of Ireland (RIAI) after a minimum of two years post graduate experience and the successful completion of an entrance examination. The Part I and Part II qualifications are awarded *in* the college after three and five years respectively of study. It is this awarding of RIAI status in the college system that best represents the close nature of the relationship between the colleges and the Institute in this country.

At present the School of Architecture in the DIT is reviewing its teaching structure. Currently the course consists of a five year *ab-initio* course with the award of Bachelor of Architecture degree upon successful completion. Under the Bologna Accord, due to be fully implemented on a European wide basis by 2010, this teaching structure will be modified to a three year undergraduate phase awarding a Bachelor of Architectural Science, followed by a two year post-graduate phase awarding a Bachelor of Architecture degree. The aim of the Bologna Accord is to establish a European Higher Education Area (EHEA) with a European-wide system of credits, adopt a system of two main cycles -undergraduate and graduate, promote mobility of students and graduates and promote European co-operation in quality assurance. Under the new accord students will receive a degree after three years successful study and another degree after an additional two years of study. This will result in a change in both the awarding of degrees in DIT and in the learning outcomes at the end of the undergraduate cycle and post-graduate cycle.

What determines the staff / student contact hours is a ratio called the THAS ratio. At present a THAS ratio of 50 is applied to all the five years. The proposed change to a two part degree would reduce that ratio to 45 for the undergraduate and 70 for post-graduate. The staff/student contact hours per week currently vary from 33- 36 hours, with the studio contact hours accounting for 18 -21 hours. (DIT Course Document, 2001). Under the new proposed DIT modularisation guidelines the ETC credits, the studio component will be cut by 15-25%. (School of Architecture DIT Modularisation Committee Report- September 2004).This corresponding cut in studio credits will also mean a cut in studio contact hours. It is important therefore to ensure that the studio contact hours are used to their maximum efficiency. A sizable part of studio time is given over to crits and therefore it is necessary to examine if they are working efficiently.

In addition to the above, the current architecture degree will also have adapt to modularisation as part of DIT current strategic plan. Part of the potential requirement under the Bologna Accord of replacing the five year *ab-initio* with a three year undergraduate

plus two year post-graduate means that the staff / student contact hours (known as the THAS ratio) will have to be re-examined. This has implications for how all subjects, and in particular the subject called 'studio', will be taught in architecture. The study undertaken looks at how 'crits' function in this subject called 'studio'.

Genesis and development of the term 'architect'

The first recorded architect was Zoser's high priest, Imhoptep, and architecture was only one of the many fields he was interested in. He was also a scribe, astronomer, magician and healer. The idea that the architect should not be a 'purist' but should be involved in many areas of knowledge persisted in history. (Calkins, 1998) At the height of Greek classical civilisation the architect was expected to maintain a 'middle' course between engineering and art. This middle course persisted to Roman times where Vitruvius believed that an architect should be a man of letters, a skilful draughtsman, a mathematician, familiar with historical studies, a diligent student of philosophy, acquainted with music, not ignorant of medicine, familiar with astronomy and astronomical calculations. This need to be a generalist was due to the function of a Roman architect who could find himself involved in a number of specialist areas such as designing dams, ports, military camps, machinery, and many additional engineering matters. Vitruvius was an admirer of classical Greek architecture and wanted to preserve the classical tradition in the design of buildings. The ten books of Vitruvius were used from ancient times to the Renaissance. In the design of buildings and structures the books were used almost as a pattern book where architects were encouraged to study the classical orders and 'model' their designs on the classical architecture within. The emphasis was on following a tradition rather than to indulge in any form of self expression. The classical orders were perceived as divine, and the role of the architect was to follow the pre-determined designs (Calkins, 1998).

From the Renaissance onwards a shift began in the status of the architect. Architecture continued to belong to the family of art, and typically, the architect was a generalist, pursuing architecture, sculpture, painting and engineering. However, the Renaissance brought about a change in that architects were sought for commissioned work as opposed to being in the employ of one patron. A successful architect sought to work on bigger and more prestigious commissions. Michelangelo and Brunelleschi, for example, promoted themselves as architects and artists in equal measure. The idea of an architect being involved in a 'creative' process as opposed to purely engineering/pattern process had begun (Watkin, 2000).

The first schools of architecture were established in the Renaissance period in Northern Italy to provide a location for the training of apprentice architects. From these academies grew the institutes who were anxious to preserve both the status and integrity of the profession. The Royal British of Architects received its royal charter in 1837 and the Royal Institute of Architects of Ireland followed shortly afterwards in 1839. The Institute has since emerged to become both a consultative body to the government on matters concerning the profession. It is the examining body for Part III students and an occasional co-ordinator for awards of commissions.

The architecture course and the role of the professional bodies

As the architecture course is primarily concerned with training the students for the discipline of architecture, the college, by extension, has an integral link with the profession. The RIAI (Royal Institute of Architects) has the role of awarding the Part III qualification (with the college awarding the Part II qualification) an important relationship with the college exists. As a professional body, the RIAI does not wish to have an academic role but it does obviously have a large stake in the quality of graduate and the quality of education

the architects receive. The RIAI reviews the course in DIT every five years to provide feedback to the college on the quality of the education being delivered. The RIAI also maintains close links to both colleges in Ireland (i.e. DIT and UCD) through these reviews and the Board of Architectural Education (BAE). These links have a quasi-control over the education of architects in that the student, after completing their studies, must gain RIAI Part III recognition if they wish to practice as an architect.

The School of Architecture in Bolton Street started as a technical school under the Vocational Education Committee (VEC) with a three year, part-time course in 1926. That course expanded and by 1944 it had become a five year, full-time course. The RIAI first awarded full recognition for Part I and II in 1967 to Bolton Street, then a college of technology. From this point the graduates were able to become full Part III members after a minimum of two years experience. Since the awarding of recognition of the degree by the RIAI it has never been withdrawn (DIT Course Document, 2001).

UCD produced its first graduate in 1917. After a period of social and political upheaval it did not produce its next graduate until 1929. UCD was recognised by both the RIAI and RIBA (O'Regan,1983). This recognition by both institutes was considered to be significant prior to the establishment of the EU in that the degree was valued and recognised abroad due to the RIBA recognition. This recognition was granted due to the university status. This distinction became obsolete with Ireland joining the EU and the closer co-operation between the European schools of architecture and the various European institutes. In 1985 the Council of the European Community directive on training and education of architects established European wide educational requirements (85/834/EEC). This recognition effectively meant that the graduate student from both Bolton Street (soon afterwards to be called DIT) and UCD had a recognised educational award at a European level (ARC guidelines 2004). A change in this European wide recognition would also mean a change in the prestige and status of the college.

To illustrate how vital this recognition is there was a time in the history of UCD when the RIBA decided that the architecture course was in need of change and threatened to withdraw recognition status.

The system of educating architects in Ireland was founded on the Ecole des Beaux Arts model and had remained relatively intact since the founding of UCD school of architecture. In this system the students learnt by doing i.e. producing a series of designs. However it differs from the system in use in both colleges today in that the students then completed their exercise and then were marked by the college professors in private. The students work was then placed in order of merit on the wall of the college. The tutors and professors role was simply to mark the work. In classes the tutors gave instruction as to how the work was to be carried out. The work was then presented in an examination format as opposed to an assessment one in that the work was privately examined by the tutors and marked as opposed to a public criticism of the work. The 'crit' as it is known as a tool of education did not exist at this time in Ireland (O'Regan,1983).

By the end of the 1960's UCD had become out of step with the teaching methods in the US, Europe and the UK. When the RIBA advised that the college needed to change its teaching methods UCD responded. The College had a series of lecturers flown into Dublin from the UK to introduce the contemporary 'crit system'. The tutors would publicly criticise the work and the students were encouraged to participate. The tutors called the students by their first names and, even more radically, the students called the tutors by their first name. The system was known colloquially as 'the flying circus' (O'Regan,1983). The radical change was brought about by the external relationship between college and the relevant professional institute and this relationship of college to professional institutes continues. The institute, therefore, although not having a direct input into the teaching course, does have an implied influence in that the withdrawal of recognition by the RIAI would mean that the course's status would be severely damaged.

Origins and ideology of teaching methods for architects

The current model of the crit system has now been in existence for more than a century. The 'learning by doing' in design education first appeared in the Ecole des Beaux Arts in Paris in the 1890s and it continues to this day, although the 'learning by doing' model is traceable back to mediaeval architectural practice -the architect/craftsperson was learning by doing for considerably longer than this. The architect/craftsperson when designing and building a cathedral would construct the building in stages often without knowing for sure what structural force it would be required to carry. If the buttress supporting a wall fell down, they would simply start again with a new one - the ultimate in the learning by doing approach (Pevsner, 1990)!

The 'design problem' was developed as the main method of teaching architecture in the Beaux Arts and the 'review' by tutors was used as a way of evaluating work. These reviews were carried out behind closed doors by design tutors with no input from students. This process then evolved into an open format (Anthony, 1991).

The idea of arguing one's work in public dates from before this though. In the 18th century in Cambridge University on the day of inauguration was known as 'tripos day'. On 'tripos day' one of the graduates of the college was appointed to sit on a stool and dispute with the new bachelors. It was the duty of the 'Bachelor of the stool' or 'tripos' to make a sport by a kind of mock disputation. Originally the 'tripos' was intended to guide the student and foster learning. However it also became a time to rank the students according to merit (Anthony, 1991).

The public nature of criticism is common to not only architects but also students in all design fields such as graphic designers, artists and interior designers who have to justify their work. Outside of the design education system a similar method is used in the

education of doctors (Barrows, 1988). Medical students are presented with a patient, asked to diagnose their illness and suggest appropriate treatment. Students are then expected to justify their decisions to a panel of experts. In medicine there is usually only one correct diagnosis and a limited range of treatments. In architecture there are endless solutions to design problems.

The architect's education also differs from the education of non-designers in that it attempts to deal with the 'creative' design process. The origins of the term 'creative' design process are discussed further in the literature review chapter. But essentially it deals with the notion of inspirational 'spark' that separates this activity from others. Hertzberger and others identifies the role of an architect not as a process of simply solving problems (as a doctor's diagnosis is) but rather it is a method of discovering problems in order to produce design solutions (Holl, 1991; Hertzberger, 1991).

Power relationships

The idea of a separate architect and profession as distinct from the craftsperson/ designer builder grew out of, in particular, the construction of mediaeval cathedrals where a young student was apprenticed to a master craftsman (Pevsner, 1990). The craftsperson would have an understanding of materials first and would be employed to work on buildings of civic or religious importance. The master craftsperson would produce drawings to represent the building based on their understanding of the materials to be used. In order to gain this knowledge of materials and building, the student would apprentice themselves to the master craftsperson.

This idea of a craftsman is a recurring theme in education of architects. The Bauhaus repeatedly refers to the need to re-unite the architect with the craftsman and promoted the idea of the master and his apprentice. In this model the apprentice is always inferior to the master in terms of knowledge (Pevsner,1990). This theme of a master and apprentice is still widespread today, for instance the current journal of student's work published by the DIT

school of architecture is titled: 'The Hand of the Master' (O'Connor & Grimes, 2004). This acknowledges that the place of the architect and student of architecture is always to be in a position of learning. The difficulty is to achieve that balance between individual self-expression and the need for apprenticeship to a 'higher' authority. This master/apprentice relationship between student and tutor forms the basis of the crit system (Doidge et al 2000).

The bulk of the process of the education of an architect centres on the idea of learning through doing. This aims to give rise to a dynamic system which is endlessly challenging to both student and educator.

The system also has an ideal of equality built into it, in terms of the practitioners, tutors and students. This is due to the process of using students work as a tool of education for the whole class. This then gives it validity as a piece of architecture. The design tutors discuss the student's own work in the same way as they would the work of well renowned architects in the crits. This approach to using the students work as the basis for discussion and criticism emerged as opposition to 'Beaux Arts' school where the Beaux Arts school a dedicated 'house' style was promoted. Students were taught the necessary drawing and construction skills and then progressed onto designing buildings in a set pattern. This would be akin to colour by numbers or using a pattern book for design. The style in which you designed was reliant on which school you went to or master you were apprenticed to. This can be witnessed in the design war that raged in the 1800s between Neo-Gothic and Neo-Classicism in architecture. This is evident in the awarding of public commissions at the time. Whereas the majority of these commissions were neo-classical, a number of prominent neo-gothic commissions were awarded. Perhaps the most famous secular building of the latter kind was the Houses of Parliament in London (Frampton, 1999).

The birth of the Bauhaus severed the link with established historical styles and promoted the new and the modern whose philosophy was based on the importance of the machine

aesthetic and socialist ideas of equality, with the importance of the artist as someone who would reflect on society and its needs (Gropius, 1919). The emphasis in this form of education was on the individual and the individuals' role within the community of craftspeople (Droste,2002). This change moved the student more into the centre of the learning process. The student no longer followed set patterns but instead had to look inwards to a 'cognitivist'/ 'constructivist' approach to learning. The student's own opinions on use of materials and how space might be formed were sought by the tutors.

The story in the popular book *From Bauhaus To Our House* illustrates this point when the author Tom Wolfe describes a Bauhaus exercise where students are given paper and told to make something in a day. The students were anxious to impress and spent hours cutting, moulding and gluing the paper into various shapes. One student looks at the paper and simply folds it in half. At the subsequent crit all the hardworking students are criticised severely. The student who spent his time simply folding a piece of paper is praised for understanding the nature of the material. The gluing and moulding are not of the nature of the material whereas folding it is. This approach and understanding of the nature of materials is inherent in Bauhaus philosophy. It feeds into much of the thinking of modern architecture and much of the thought process lives on in today's schools of architecture. Its strength lies in allowing the students to explore architecture on their own terms (Wolfe, 1999 edition).

Description of crit process

The term 'crit' is central to this research, so first of all a brief explanation is necessary. The architecture course is divided into traditional lecture-based subjects which are usually examined at the end of the academic year by a written examination and the studio based projects. The studio component of the course makes up on average 19 student contact hours

per week. The lecture based projects make up 13 hours student contact per week. (DIT Course Document, 2001:p39)

The studio aspect of the course is based on a series of design projects starting in the first year with small scale projects (such as a house) and growing in size and complexity to the later years to large scale projects (such as a museum). The first year house comprises of six weeks of the academic year. The final year is given over to a thesis where the student explores an aspect of architecture through the design of a building. This project will continue for the entire academic year. (DIT Studio programme 2003/04)

The design project is then reviewed by a jury of critics - usually in this case the studio staff assigned to the year. The design projects involve a series of stages. The intermediate stages involve a presentation of 'work in progress' or an interim review. Up to this point there may have been a number of one-to-one sessions between the tutors and the student. The interim review allows the student to present the work to the class and a number of tutors and get a variety of opinions. At this stage the student either requires specific advice or for ideas on how to progress. The final review is usually more formal than the interim stages. This is due to the marking role it plays and the fact that it represents an end to the project. It is similar to the interim crit in that the student can get feedback and learn from the discussion (Doidge et al. 2000).

The aim of these reviews is to provide the student with direct oral feedback on their work from a number of different tutors. The review is public i.e. open to all the staff and students in the course to attend. The presented work is then commented on and criticised by the staff. From this the term 'crit', short for criticism, comes.

The final review is used to pass comment on the work presented and also how the project developed over the course of the exercise. It also has a summative marking function. The number of critics involved in these reviews can vary from two for small intermediate reviews up to as many as eight for a final review in one of the later years. In all cases these

reviews must be public to be defined as a 'crit'. The reasons for the public nature of the crit are:

- to allow all students to see and learn from each other
- to place the student's project at the centre of the learning experience
- to allow the students to develop their own critical skills and critical thinking
- to comment on another student's work.

The common theme in this method of education is that the student learns by doing i.e. that the student learns about architecture and design through the design of buildings.

The successful crits when they work try to cover a range of learning opportunities as follows:

- It provides a chance to evaluate work, the crits are not simply to provide a mark which is not a satisfactory form of feedback.
- It also allows students to see their work in the context of other students' work and it also allows the tutors to evaluate the entire body of work from the class. The feedback from the review should give instruction on strengths and weaknesses.
- It gives the student a chance to explore architecture in an academic environment as opposed to practice.
- The deadline of the crit focuses the mind of the student to produce work by a set date.
- It allows the student to develop critical awareness through the understanding of different ideas and approaches.
- It also gives the student an opportunity to learn from everyone: other students, the tutors and visiting critics.
- By not following a prescribed series of lectures the crit is a spontaneous act of teaching and learning and is constantly challenging to both staff and student.

When the review does **not** work it can be because:

- the review is crowded and it is not possible to see what is being reviewed

- the tutors comments can be overly negative
- the student debate does not exist, the tutors focus primarily on their own area of interest
- often the language used by the tutors is too- obtuse to be understood by the student.
- the promotion of one students' work over another and the development of the cult of the personality and the 'star' system. (Doidge et al. 2000).

The crits being divided into two types- the interim crit and the final crit- is significant in educational terms in that the first is formative assessment and the latter is summative assessment with the award of a mark in DIT.

This system varies between DIT and UCD however. In DIT the final crit is marked with a percentage. In UCD the final crit does not have a mark, there is one mark only for the year and that is awarded for the body of work presented at the end of the year, known as the **portfolio**. The reason for this given by one UCD tutor is that the portfolio best represents the student's progress through the year and it is not possible to award marks at the end of a project as the student has not completed their study objectives for the year unlike in the DIT marking system where the students are given a mark at the end of each project. Both colleges have a portfolio of work submitted at the end of the year.

At the end of the academic year the student receives a mark for their portfolio which forms part of the overall studio mark. The aim of this marking system and crit system is to give the student feedback during the year and allow for the student's body of work to be re-examined in its totality at the end of the year (DIT Course Document 2001, UCD Course Document 2002).

This way the DIT marking system runs parallel to the crit system. It can be both clear and also confusing to the student. Often the student feels that the review went well and then receives a lower mark than they expected, or vice-versa. The portfolio mark at the end of

the year can also leave some room for ambiguity in that students feel that they have no control over it. The portfolio marking occurring at the end of the year is completed behind 'closed doors'. The guidelines for each year state it is a both a progress and an examination of how a students body of work fits together (Year Document 2003/04). The difference in approach is significant in that where there is a direct link between marking and the crit in DIT i.e. final crit equals final mark for project, nevertheless the UCD model also acknowledges the primacy of the crit in that the only feedback in the absence of a mark for a project is the oral feedback given at a final crit.

Aims and objectives of the study

Purpose

The purpose of this study is to contribute to a growing debate on the role of architectural education with particular emphasis on the use of the crit. Currently much of this debate focuses on the need for more research to bridge to gap between research and practice. However in order to achieve this successfully then our methods of education most also come under scrutiny. The educational method has a close relationship to the profession and professional institute. This relationship works two ways, both in how the profession sees itself in the social context, and, by extension, how the student of architecture is educated to fulfil this role.

Aim of research

Architecture is the art of making buildings and space. By nature architects are interested in making things. The research aims to comprehend the learning and teaching process in the training of an architect and to explore the efficiency and clarity of the main current teaching process, namely the 'crit'.

Research objectives

The objectives can be broadly outlined as follows:

In terms of teaching:-

- To understand the nature of the process of assessment of architecture students at the crit.
- To understand best teaching practice for feedback to students at the crit.
- To reflect on my own teaching methods through research based practice.

(Mabardi & Girelli 1997)

In terms of the narrative of the profession:-

- To explore the concept of creativity and its origins. Architecture being part of the arts, it reifies the individual as opposed to placing a social context around the subject. The thesis explores the significance of this both in the profession and how this is encompassed in the teaching and assessment methods.

In terms of education:-

- To place the education of an architect in is relevant social context (Pallasmaa,1996).
- To examine similarities with other fields of education.

Ethical issues

Both the research method and the area of study did present a number of ethical dilemmas. The graduates in the questionnaires were given a promise of confidentiality, their identities and any data they divulged. Colleagues and students on the course were informed regarding the aims and nature of the research at the start of the academic year in question. For this reason the balance of interviews were mixed between recent graduate and also experienced graduates and hence some of their comments refer to lecturers who have since retired or are no longer teaching. In the case of what could be perceived as negative or

critical comments about existing lecturers the names and context have been changed to avoid any possible identification. Neither the name change nor context change impacts on the integrity of the research.

The micro-research interventions used are based on my teaching experiences in the academic term 2003/04. The micro-research intervention part of the study involved classes from one year only. I sought the approval of the students in the year before proceeding with the study (McNiff, Lomac & Whitehead, 1996).

It could be argued on a personal level that my own experiences of the crit system might have contaminated the objectivity of the findings. To counter this there is now a distance of fifteen years from my own crit experiences and my commencing this study. However, far from being a disadvantage, I believe that being able to use my own experiences both as a tutor and student was actually an advantage in the study. I do not want to remove the 'I' from the entire thesis as feel it is important to place myself in the context of the research where appropriate (Rust, 2002). This is covered in more depth in the methodology chapter.

Summary

The aim of this thesis is to explore the current widespread use of oral feedback and assessment given to students of architecture with a view to evolving or replacing it. My thesis has aimed to understand this assessment process as it is at present and explore possible alternatives. This system known as the 'crit' is used almost universally as the primary method of educating architects in the design process.
Having taught first year for recently I was reminded of how much of a leap the change from the secondary school model of learning by rote and written exams a 'behaviourist' one to the freer third level system is.

This is particularly true of the architecture course where so much of the students progress through the college is made by their own project work as opposed to a prescribed series of lectures. The project work is unique in that it is the students' own work. It has its strength in that it is far removed from the 'filling of empty jugs' model of education as described by Paulo Freire and allows the students the opportunity to claim ownership of their education. However its weaknesses lie in the cult of the personality, the promotion of one student over another and the dangers of the 'star' system.

I have also used the thesis as an opportunity to examine my own teaching methods.

Part of this exploration has also dealt with how this method of education feeds in to the culture of the architect and how they see themselves in society, and equally of interest how they wish to be perceived. This is then formalised through the professional bodies. With regard to these bodies the college has a difficult path to tread in order to maintain academic freedom and also responsibility to the graduates they produce.

In the traditional role of the profession it was assumed that there was an expert in the field of a particular knowledge and this person passed on their expert knowledge to the student. This thesis looked at the origins of this expertise and its impact on the educational system.

CHAPTER 3

RESEARCH DESIGN, METHODOLOGY AND METHODS

Introduction

This chapter aims to identify an appropriate methodology for, and outline the methods used, in this research. The research question is framed to explore the method of assessment/feedback of students of architecture. This also involves explores the mapping, language and roles that both the student and tutor play.

Stevens (2003) argues that role of the tutor is to explore the architecture that exists in every student, to make them aware of this and to bring this out in the student's own work. In this process it is not desirable, or indeed possible, for either the tutor or student to remove the personal from the design experience.

The training of the architect is based on the exploration of concepts and these concepts- although having a rationale understandable by all-, are inherently based on personal experience and a personal interpretation of the world. (Hertzberger,1991). The role of the tutor is to seek out the student's voice and to bring this out so that a diversity of opinions on architecture can emerge.

The methodologies used in this research have been informed by both this epistemological stance and the research question posed. An architect's training focuses on listening to an inner voice and proceed through both research and design all the time listening to this voice (Rasmussen,1964). As an architect engaged in educational research the inner voice of the researcher has also been acknowledged in the methodology of the design of this research. The chapter will examine both the reasons for the selection of methodology and outline the methods used.

Research paradigms

Crotty (1998) defines a broad framework for positioning the research question. The three primary epistemologies are defined as objectivism, constructionism and subjectivism. In objectivism the view is that things exist as meaningful entities independent of consciousness and experience. As such, truth and meaning reside in them and through careful research that truth and meaning can be discovered. The second category-constructionism -rejects this view of human knowledge, claiming that there is no objective truth waiting to be discovered. Truth and meaning are not discovered rather they are constructed. Therefore what is 'truth' changes from one culture and one era to the next. In the third -subjectivism (which is often integrated into constructionism)- meaning does not come out of this interplay between subject and object, but it is imposed on the object by the subject. Meaning is therefore imported. This meaning may come from social, political, religious and hegemonic backgrounds. As such, reality does not exist in an objective form waiting to be discovered, but rather reality can be seen to be socially constructed (Goffman,1959). Architecture belonging to the arts refies the role of the individual over that of society and this forms part of its internal narrative. i.e. the story of architectural heroes who change the world of architecture and by extension society. Banham refers to these architects as masters such as Le Corbusier, Lloyd Wright, Gropius and van der Rohe

(Banham, 1975) This research, by belonging to an architectural background and by being a study of architects and their behaviour, acknowledges the inner voice of the researcher and therefore is situated in the subjectivist epistemology.

This subjectivist epistemology underpins the interpretivist stance. The interpretivist theoretical perspective is the most appropriate one for a social scientific study such as this research. By extension this theoretical perspective allows for methodological pluralism: interpretivism allows for a variety of research methods and methodologies to be used. The chosen area of study explores the following: method of instruction, how this method of instruction informs the student during their college career and how this method then forms part of how they see themselves in the profession. As such the study sits more comfortably within the realm of social science as it is a study of human behaviour. In a study of human behaviour an appropriate approach needs to be used. One such approach is the qualitative one as argued by Cohen & Mannion (2001) who state that this is best suited to a study of human behaviour. It can be argued in the post-modern paradigm that the most valid approach is one that acknowledges the role of the researcher as well in the process and accepts the subjective nature of their involvement. Thus knowledge can be viewed in a similar way it can be seen to be external and if that is the case then a point will be reached where everything 'out there' to be discovered will eventually be so (Berger & Luckmann, 1967). An alternative might be to view knowledge as infinite and bound by social circumstance (Denzin and Lincoln, 2003)

The methodologies chosen for this study were a combination of ethnography/sociometry - participant observation, micro-action interventions and discourse analysis. The methods used were textual analysis, field studies and interviews, in an attempt to place the research in its current context. A quantitative research approach based in the objective epistemology would not be able to represent the complexity of understanding of the student/tutor roles in the make up of a crit. The positionality of the researcher in this research is acknowledged

but rather than reducing the value/ 'objectivity' of the research it is seen as an intrinsic part of it.

So called scientific certainties of research seek the faux certainty of reductionistic decontextualisation as they ignore the multiple factors profoundly but tacitly shaping both the researcher and the research act (Denzin and Lincoln 2003: 38).

In searching for an appropriate methodology, the approach selected is a multi-method, complexity approach: both qualitative interviews combined with micro-action interventions and participant observation, in addition to a review of relevant literature. The micro-research interventions were an exploration of how the practice of giving feedback could be improved through experimentation and observation in a class setting. This is based on both the 'ficitive' or future orientated desire to change teaching but also on Hargreave's model of the relationship between educational research and the practice of teaching. In Hargreave's model the educational research is informed by the social sciences but also uses evidence-based knowledge of teaching to inform the craft knowledge of teaching. (Bassey 1999., Bauer & Gaskell 2000).

This design will allow for exploration of the similarities and differences between the findings generated by each method. Berry (2000) discusses this phenomenon as the concept of placing the findings from different methods on top of each other as one might place different transparencies on an overhead projector. One can see through each layer to the next and this enriches the reading of each layer. Berry & Kinchloe (2004) describe this methodology as 'bricolage'. Bricolage is situated in the interpretivist theoretical perspective but also allows for a variety of methods, with quantitative and qualitative to be combined. This methodology also acknowledges both the researcher's voice and their background. The research therefore selected a number of 'traditional' modes of qualitative inquiry as defined by Creswell (2002).

A justification of bricolage as a tool for research

Bricolage deals with power and culture issues and documents their influence on scholarship in general. Theory exists not as an explanation of the world but it is more an explanation of our relation to the world. Bricolage is used in researching the complexity and unpredictability of the cultural domain and seeks to explore the gap between material reality and human perception (Berry & Kinchloe 2004).

The main headings which are pertinent to this study can be outlined as follows:
-*intertextuality:* narratives obtain meaning, not merely by their relationship to materials reality but from their connection to other narratives. The roles that the student and tutor play are governed by a complexity of expectations, previous experience and even by popular culture.
-*discursive construction:* an attempt to uncover the hidden rules that define what a researcher can and cannot say, who possess the power to speak and who must listen/read. This can apply to the field of study in this particular thesis in terms of who is recognised as an 'expert', who is listened to in providing feedback, and how the expert is selected.
-*the fictive dimension of research findings:* no fact is self evident in a zone of complexity, and any worker who believes that research narratives are simple truths is operating in a naïve domain. This concerns both the findings being examined from a series of viewpoints which the design of this research does and also the desire to produce a change through the study.
-*the cultural assumptions within all research methods:* all knowledge production does not exist in a vacuum. There is always a specific time and place for this knowledge. Researchers operate with a consciousness of these dynamics. Thus the insights gleaned from it seek more complex ways of producing knowledge. Both architectural and educational theory changes and the findings of this study are bound by its time and place.

-the relationship between power and knowledge: As Foucault argues, power can be both a censor that excludes, blocks or represses, as well as being a great producer creating knowledge and legitimating ways of seeing it. The way different research orientations draw boundaries around what is acceptable and what is not. The research looks to move beyond one method of research, the rigour of the argument in the research is driven by using a multi-method approach

Bricolage deals with what *should be* as well as *what is* and posits that any aspect of study cannot be divorced from its context. This means that any study is not complete without attention to the emotional, affective and value laden aspects of human behaviour. Bricolage does not attempt to subvert empirical knowledge. But rather than simply dismissing modernist thought and empiricism it seeks to explore modernist thought in a post-modern way. It calls for a more rigorous form of empirical knowledge and a more modest claiming for what that knowledge represents.

Bricolage re-examines the old adage that knowledge is 'out there' waiting to be explored and discovered. The Cartesian perspective has been useful in great scientific discoveries, but in order to engage in bricolage the Cartesian perspective must be brought in to the study along with other perspectives. Bricolage explores the idea of what diverse insights can be gained from a variety of domains. New dramatic breakthroughs are possible through new knowledge created in a collision of diverse perspectives. Boundaries between knowledges are considered false in that everyday life is encountered in a seamless whole. To attempt a deeper understanding of knowledge in a field one must operate within the social context, this includes language, historical context and power relationships.

The bricoleur knows that empirical data viewed from another perspective or questioned by one from a different background can elicit fundamentally different interpretation. (Kinchloe & Berry 2004: 7).

Kinchole goes on to explore relational hermeneutics where the process of interpretation and meaning making is directly tied to the exposure of relationships. In many ways this can be loosely called the 'zeitgeist' of the time. Relational hermeneutics is developed in detail to explore relationships between similar social movements e.g. the post -colonial rebellions had an impact on the civil rights movement in the US, to the civil rights movement in Northern Ireland. By extension these phenomena then transfer around the world and this is particularly relevant given the global communications revolution where events in one part of the world can be transmitted and have an impact on another part of the world instantaneously. However, the global communications at times sits uncomfortably with local or indigenous knowledge. This is a central to theme of bricolage: the idea that knowledge lives in the cultures of indigenous peoples. This knowledge is to be sought out to provide a diverse opinion and to explore the gained knowledge from this 'collision'.
Kinchloe (2004) argues that rigorous research involves:
-connecting the object of inquiry to the many contexts in which it is embedded;
-appreciating the relationship between researcher and that being researched;
-connecting the making of meaning to human experience;
-making use of textual forms of analysis while not forgetting that living and breathing human beings are entities around which and within which meaning is being made;
-building a bridge between these forms of understanding and informed action.

Berry (2004) develops this concept further and uses the anagram POET (Point Of Entry Text). This point of entry can be anything: a discussion paper, an image from a film. From this start point a series of loops and feedback research is launched to understand the same phenomenon from a series of points of view. The POET is anything that has meaning.
There are several analogies drawn:
-The trees and the forest. Where the research is in a post-structural context, there is no constant beginning, middle or end.
-The overhead transparency as discussed previously.

-Hypertext. In this example one is linked to a variety of different sources. The author then generates multiple readings from the text. This is anchored in Derrida's deconstructivist theories.
-DVD. Similar to the structure of a DVD one can go to different parts of the film and check the author's notes, deletions and changes from the original POET.

To sum up, the methodology of this thesis is deliberately selected to:
-unravel threads of different truths and values.
-contradict the long established and taken for granted facts and truths.
-expose the hegemonic processes that brought us to consent to assumptions about power relations.
-confront my own beliefs and values
-situate the knowledge of my text in historical, social, cultural, political, economical and intellectual contexts

Outline of research design

Using bricolage as the overriding methodology, this thesis employs a range of methods. Bricolage has both fed into the research process, formed the parameters of the study and by extension has shaped the conclusions. The research includes interviews, ethnographic methods and exploration of the dominant discourses. This overlaying of three methods of inquiry is to ensure the rigour of the analysis of the findings (Rust, 2002). By using several methods of accumulating and analysing data has been possible to build up a truer portrait of the feedback process (Wiggins, 1998).

	Timeframe	Participants	Relevant Features
Interviews with graduates	Sep03-Sept 04	Graduates of DIT and UCD	Informal semi-structured
Micro- research interventions in the crit scenario	Feb-Apr. 04	Students within DIT	Set in studio with followed by reflective journal and questionnaire
Ethnographic observation of the sociometry of the crit	Dec03-Jan. 04	Students within DIT	Set in studio and followed by recorded drawings and questionnaire
Discourse analysis of the literature	Jan.04-Jan. 05	Relevant books, articles and journals	Summarised in chapter 4.

Interview

The qualitative interview method was selected to gain access to cultural categories and assumptions. The interview technique allowed the participants', recent ex-students and architects whose career would now be considered by the profession to be 'mature,' own voices to emerge and from this to feed into the overall research. The qualitative interviews allowed space for feelings as well as perceived facts to emerge. It also allows for a plurality of interpretations to emerge. Kvale (1996) argues that rigorous qualitative interviews should *not* be unequivocal but rather give space for other meanings to develop.

Interactive process where questions asked are part of the data and not just an invitation to speak (Baker 1997).

Interview Methodology

In advance of the interview I structured the questions that I would cover. However, this was not given to the interviewees either prior to, or after the interview because I wanted to avoid any overly prepared responses to the questions. The interviews could therefore at times meander from the main points to be covered, these meanderings have a relevance in understanding the individual's comprehension of the education process. It also allowed for the individual's voice to be heard and give space for divergent views (Kinchloe 2004, Foddy 1999).The location of the interview was also important. To avoid the interview being formal and possibly making someone uncomfortable, all interviews were conducted away from my office in College. This was necessary as the nature of what was being discussed was at times very personal (Wragg, T. from Coleman & Briggs 2002).

Selection of interviewees

The interviewees are all graduates of one of the two schools of architecture in Dublin. They are broadly divided into two categories: The recent graduates for whom the college experience is 'fresh', and graduates of approximately fifteen years ago who would now be regarded as 'mature' in their career path. Some of these graduates included were mature students at the time of commencing their studies, some are currently involved in education and some were involved in education up until recently.

They were selected by examining college records of recent graduates to have a mix of mature students and students who came in via the CAO points system. Representing architects who qualified a number of years ago, were a range of people who were self-employed, or employed, in the private sector or the public sector, as well as those who had completed further study. This was an attempt to get a representative sample of graduates from several stages in their career, and thereby several contexts.

Format of Interviews

The interview was a semi-structured format. I prepared the main areas that I wished to cover in advance of the interview process. This allowed freedom for the interviewee to raise topics that they thought were relevant to the interview process.

I was interested in eliciting their response to:

-the relevance of their education to their later practice as an architect.

-the education methods that best helped them discover their own architectural 'voice'.

-their understanding of the importance/ relevance of the 'crit', and its use as an educational and assessment tool.

-their background and its connection to their educational experience.

Ethnographic methods for the sociometry of the crit

Maturana and Varela (1987) address the fragmentation of modernist psychology and they have called for a new theory called 'enactivist cognitive theory'. This is not dissimilar to Cohen & Mannion's (2001) critical theory where theory is not just an attempt to understand situations but also an attempt to transform them as well. The research becomes more future centred which tries to explore and develop something that is not yet in being which Kinchole describes as the 'fictive' element of research.

In this sense 'fictive' does not mean unreal. Scientific inventors engaged in a similar process when they created design documents for the electric light, the rocket, the computer or virtual reality. In these cases the individuals used ficitive imagination to produce something that did not yet exist. The bricoleur does that same thing in a different ontological and epistemological domain. Both the inventor and the bricoleur are future- orientated, they explore the realm of the possibility, a kinetic epistemology of the possible. Architects belong to this realm. They are not problem solvers they are problem seekers. The role of the architect is not to simply solve a solution to a question posed by the client. The American architect Frank Lloyd Wright stated that the role of the architect is to take the client's

wishes and then turn them into a building superior to anything that client thought was possible. In the same way:

..bricolage not only is a dynamic of research but also operates in the connected domains of cognition and pedagogy. In the epistemological and ontological deliberations of the bricolage we gain new insight into new modes of thinking, teaching and learning. (Kinchole 2004: 21)

In all of this it is important to locate the self in the discourse of the bricolage.

What a bricoleur selects or does not select and how she interprets the text has been influenced by the multiple socialising contexts and discourse through which she has passed. Thus, positionality is one area that needs to be included in all readings, writings and research that employs bricolage. (Berry & Kinchole 2004: 165)

By using a mixture of ethnography i.e. observing the crit in progress, and by a series of interventions in the crit process the aim was to produce a change a 'fictive' element into the crit process. These micro- action interventions were then recorded in journal entries.

Micro-Action Interventions /Journal Entries

These studies were undertaken during the academic term 2003/04 during the months of December, January, February and March. Participants were all undergraduate students of architecture (with one exception). The micro-action interventions were a series of interventions into actual crits, and were located within the framework of assessment projects already devised by the staff and myself. The actions taken were with the consent of staff and students. Informal feedback was sought from students on the changes and a short survey was completed by the students and written up by me. I kept a reflective journal, writing up each exercise after its completion. The mini-actions were observing the seating, speaking and role playing arrangements for the crits and then observing the change in the pattern of dialogue and learning with different crit organisations (Elliott, 1991).

The journal entries do not represent action research as such but instead are my own reflections on my own teaching practice. This would fit with Radnor's (2002) view of educational research where the teacher is a purposive element capable of generating change.

Exploration of the dominant discourse of architecture in relevant literature

The literature explored, covered architectural theory and current discourses of architecture. This was important to relate the architect's education to how the architect perceives themselves subsequent to leaving college and to discourse through which they define themselves as an architect. This involved not only reading current and previous architectural writings on the education of architects but also 'crossover knowledge' i.e. knowledge from other fields that would have relevance to the course.

The literature examined a series of POETs: the history of the profession, the educational perspective and the image that the architect projects in society (Coughlan & Brannick 2001). The justification for using several methods of accumulating and analysing data is to triangulate the information from diverse theories. This is an attempt to build up a truer portrait of the feedback process. (Wiggins 1998.)

The research process attempts to be strong in its formative intent acknowledging that the research findings are a snapshot in time which should be revisited after the lifetime of the study. (Milne 1998.)

The study uses a complex approach, drawing on a range of theoretical perspectives, termed 'bricolage' which will be discussed further in the methodology chapter. This bricolage allowed for the questions to be explored using a range of different tools. The research hoped to identify and discuss not just the areas of overlap but also the areas of greatest divergence, allowing maximum space for the possible. In-depth interviews with a number of graduates of the schools of architecture in Ireland (DIT and UCD) were completed focussing only on architects who have completed their undergraduate studies in Dublin who

could reflect specifically the Irish experience, for the purpose of this study. The interviewees- graduates are from different backgrounds: differing social class or were mature students when starting the degree programme.

Summary

This is an exploratory, interpretive research study or bricolage. It draws on a range of theoretical perspectives to seek a multi-dimensional understanding of the phenomenon of the crit. This perspective includes elements of phenomenology, psychology, sociology and discourse analysis. Bricolage allows for collection of data and interpretation in not just the areas of overlap but also the areas of greatest divergence in the findings.

Interviews were one method chosen because of their ability to give the interviewee a voice. Action research was chosen to bring about change in the teaching method. Textual analysis was conducted to allow for reflection and understanding of how the crit as a method of feedback goes on to impact on the role and image of the architect.

The writing up has been an opportunity to reflect on how the crit process can be improved further or even replaced by another model. It is not intended to provide a definitive answer to the 'problem' of giving students feedback. This is in keeping with the overall epistemology where there is no final answer to developing feedback but instead the thesis is an exploratory model into teaching methods.

CHAPTER 4

LITERATURE REVIEW

Introduction

This chapter explores the current discourse around the issues that inform and set the methods of feedback and assessment for the crit. The chapter is structured in two parts: the first examines the organisation of the crit and the second looks at the knowledge being imparted. The process of the crit is then developed further regarding its primary educational role. In this exploration of the crit the themes of innate, intuitive and creative skills are regarded as being central to the training of an architect by the profession. These are developed in detail as this informs the reviewers at the crit as to what their role is. An exploration of the term 'creativity' is also important in this context to determine the relevance of the crit and its function in the education of an architect.

For clarity the crit being referred to in this chapter is called the 'wall crit' which is a review of students work which is pinned up on the wall and then critted by the tutors. The wall crit can either be a final wall crit - the end of the project - or a interim crit which is a wall review as the project progresses.

Organisation of the crit

In examining the organisation of the crit it has been necessary to devise a number of sub-categories. The first sub-category looks back at historic precedents and how they underlie the whole process. The next sub-category looks at the position of the crit in the hierarchy of learning for the architect. The third sub-category looks at the importance of language in the learning process, and the final sub-category looks at an exploration of who is traditionally present at the crit.

The crit is broadly the opportunity to review the work of the student. The organisation of the crit dates back to the Ecole des Beaux Arts with the earliest traces go back to the academies established during the Renaissance (Frampton, 1999). What distinguishes the current schools of architecture is the difference between the 'pattern book' approach of the early schools of the Renaissance to the Beaux Arts period. The Ecole des Beaux Arts promoted the approach of 'acceptable' designs through careful documentation of early Greek and Roman Architecture (Broadbent,1994). Therefore the specific principles of composition were represented through 'pattern books' of designs.

Students in the Beaux Arts tradition apprenticed under faculty members and senior students and followed closely the examples set by the faculty and drewn on the content of the pattern books. The course structure meant that the students copied examples of the classical orders in the early college years before progressing on to the design of architecture based on these set patterns as their student career progressed. There were echoes of this system in the education of architects up until quite recently on both architecture courses in UCD and the DIT. In first year in both courses the first year students copied both Doric and Ionic columns as exercises as recently as five years ago.

The Bauhaus model of architect training emerged in opposition to the copying and idealising of the classical orders as an approach to design. In the Bauhaus model the students were encouraged to explore architecture free of any models of the past (Broadbent,1994). In the desire of the Bauhaus to rid the architect's training of the tyranny of past designs and history a new style known as 'The International Style' was promoted. In place of the historic patterns the Bauhaus set out to create new ones based on modern principles. Therefore the students found themselves detached from the historic precedents of the Ecole des Beaux Arts yet very much bound to precedents being developed by the masters of the new school such as Gropius, van der Rohe and Klee. The instructors on the course wished the students to be 'free of any knowledge' and therefore open to the new architecture (Akin, 1990; Broadbent,1994).

This presumption of the student being free from prior influence and therefore open to embracing new ideas as a starting point in contemporary training led to a number of obvious distortions of the process of education which will be discussed later in the chapter. What is fundamental to this method of education is that is led to the student being exposed to an alternative method of education where they were expected to throw away any pre-conceived notions of architecture and instead to immerse themselves in the 'new modernism' (Akin,1990; Wolfe 1999).

Akin (1990) points out that this method of education did have the benefit of moving the student to a more central position in the education map. The emphasis became more about the individual and their learning. The students in the Bauhaus and subsequent schools, encouraged students to explore architecture for themselves instead of following set patterns the emphasis was on self learning and exploration. History and historical precedence were downgraded and in the school curriculum, -if studied at all- and it was regarded as no more than a subject equal in status to structures or science rather than a set of design rules to be studied, analysed and followed (Broadbent,1994).

The upheaval in Germany in the 1930's ensured that the founders of the Bauhaus and their ideas would have an international scope in future. The main protagonists of the movement immigrated abroad to the US or Britain and took up positions in prominent schools of architecture (Wolfe 1999).

From the Bauhaus legacy came the philosophy of education that students should come to understand the principles of design and architecture through doing, rather than the acceptance of received wisdom. Crits were then developed further to avoid mere exercise where the student who used a set style the best got the highest mark to a situation where students were involved in a learning experience where there were no set style rules (Doidge et al 2000). However the counter - argument is that both the Bauhaus, and most subsequently established schools of architecture, did not produce the divergent architectural language that one might expect from such a free and exploratory system. Instead architecture merely transformed itself from one style -based primarily on the classical orders- to one based on the International Style promoted primarily, -though not exclusively- by the founders of the Bauhaus (Wolfe 1999, Doidge et al 2000).

The model that the educators in the Bauhaus developed, and that is still adhered to this day, is that the work should be reviewed for all to discuss. In this system every student gets equal tutor time, they get the experience of a number of architects' opinions and the public nature of the 'crits' should encourage other students to feel free to comment on a fellow student's work.

However, often due to time pressures, or simple tiredness on the part of the critics, this is often not the case. Most tutors feel obliged to comment on all the students work to be fair to everybody. For each student this can often mean up to six different opinions being voiced at one time (Doidge et al. 2000). As the day progresses the tutors become more and more tired and the initial freshness of the system can wear out. In order to progress through all the

students there is little time in the teaching day to allow the students also to have their say. What happens frequently at crits is that staff, both part time and full time, work on into the evening. It is not uncommon for crits to finish at 8pm in the evening, long after the scheduled teaching hours are over. When you bear in mind that the part-time staff are not being paid for these hours it gives you an indication of the dedication that tutors have to the crit system (Doige et al. 2000).

One can see historical examples of this bringing of practice into the classroom in the Bauhaus ideals of modernism. Pinker quotes the modernist critic Frederick Turner in explaining the mission of modernism:
'its artistic mission is to identify, and strip away the false sense of routine experience and interpretative framing provided by conformist mass commercial society, and to make us experience nakedly and anew the immediacy of reality through our peeled and rejuvenated senses. This therapeutic work is also a spiritual mission, in that a community of such transformed human beings would, in theory, be able to construct a better kind of society .The enemies of the process are co-option, commercial exploitation and reproduction, and kitsch....Fresh, raw experience-to which artists have an unmediated and childlike access- is routinised, compartmentalised, and dulled into insensibility by society.' (Pinker 2002: 410)

The danger in this is to invalidate the student's own knowledge. The naiveté of this reductionist philosophy is that it presumes that we are capable in the education of students to reduce them down to the nothing in terms of knowledge. This had the effect of de-valuing the student's own knowledge and denying its validity (Freire, 1970). The students rather than explore for themselves what architecture is and their approach to design should be, produces what will please and win approval from the tutor. That is not to say that seeking approval of tutors is necessarily a bad thing.

Desiring the approval of others is not necessarily detrimental to learning, as one of the pleasures of learning lies in knowing that others will share our enthusiasms (Glasner & Brown 2000).

However, the limits of this form of assessment are reached when gaining the approval of others is our main reason for learning. Students may then be constrained to regard the teacher's approval as indicative of approval by other powerful groups in society on which they are dependent for improvement in status and earning capacity that goes with it. Here the students sees the teacher's approval given a physical existence as a tangible reality-reification (Rowntree,1987).

The difficulty of this reified system is that it encourages the 'star'. The tutors praise the work of a number of students as being 'outstanding', 'inspired' 'gifted' etc. etc. The other side of the coin is that some students work is severely criticised. This can create an environment where the some students feel depressed, lacking motivation and even if they do have any motivation they are unsure what direction to proceed in. This promotion of the 'star' system was accurately described by someone I attended College with as: 'feeling that architecture was some kind of dark art or witchcraft, a skill that either you had or you did not have'.

The student is reduced to the role of seeing approval/ merits at the hands of the tutors.

The current system of promoting a number of student's work as being superior to others has its roots in the history of the profession itself. This does have an unfortunate side effect in that it encourages the cult of the individual or the misunderstood genius as personified in popular culture. This view of 'genius' and 'gifted' is a surprisingly common belief amongst a lot of architects. Recently at a review of the school of architecture I heard a visiting extern remark that *not everyone could be an architect* as it took a special something. This raises issues of whether architects are born or made.

If one is take the argument that they are born they the role of the tutor is a 'potato grader' Toohey (1999) states. As the first class mind proclaims itself the tutor becomes a critic in the narrow sense of the word, passing judgement in terms of what is good and bad only. The tutor's job becomes one who examines the students to find those who have that creative spark which cannot be taught, only identified. The origins of this quantifiable term 'creativity' are hard to discern. It can be discussed as both an intuitive thinking and analytical thinking. This thinking does not occur spontaneously or in a vacuum but is influenced by the environment as well (DeBono 1967, Nickerson, Perkins & Smith 1985, Craft et al. 2001).

Dominance of the crit

The crit being placed at the centre of the student's learning experience has historical precedence in terms of how the student should learn. But it also has practical importance in that it is used as both a method to provide formative feedback and summative assessment to the student.

In examining assessment first: assessment can be seen to have a number of functions: to deal with selection, to maintain standards, to motivate the students, to give feedback to students, to give feedback to the teacher, and to prepare the student for life. (Rowntree, 1987) The purpose of assessment is to deal with such as issues as quality control and upholding of norms and that the people being certified are the same standard as those from last year and five years ago.

What may be taken as a universal example say an examination paper in isolation will not give an indication of what is an acceptable pass standard. You must also know what the examiner is willing to accept as a pass standard. Therefore assessment exists in a context.

Likewise with the students' submission at a crit -the work needs to be reviewed in the context of the whole classes' work. Thus in a crit scenario the assessment is placed in a public context of other students work. The student work becomes normed.

With regard to feedback: Rowntree (1987) states that 'feedback is the lifeblood of learning'. Effective feedback enables the student to identify their strengths and weaknesses and shows how to improve where they are weak or build upon what they do best. In its least useful form it is a mark. Inadequate feedback can indicate that the assessment is serving the interests of people other than the students. Feedback also is required to demonstrate how well the teacher has taught. This assessment then contributes towards course evaluation (Rowntree,1987).

How does this apply to the crit scenario? Many architectural tutors believe that the crit system prepares the students of architecture for the rigors of the 'real life' of the architect. The crit is seen as preparation for presenting projects in the work world. (Anthony, 1991)This in some way seems to imply that college life is not real or that somehow the college could not be used as a training ground for learning to challenge the perceived 'real life ' pressures (Rowntree, 1987).

Rowntree cites Evans, (1942) on assessment :
'A student who completes a programme of higher education without facing the rigorous evaluations of a grading system has missed one great chance to learn the helpful lesson that life is full of tests and trials' (Rowntree 1987: 28).
Rowntree argues that real life is however not like this: most people seldom ever again meet the experience of being tested or examined on a syllabus, and a person's career is usually based on work over a given period of time and their track record.

Heisenberg's uncertainty principle indicates that if a student knows that they are being assessed they change their behaviour. This alteration in behaviour can either be benign or

malignant. If students feel that a teacher is genuinely concerned about how they think and feel and is interested in learning how they progressed over a period of time they may well feel stimulated to maintaining a high level of effort. This is especially true in the case of crits where so much of both the feedback and assessment are public (Rowntree, 1987).

Value of language and learning

Goffman (1976) refers the problems of the student being overly aware of the assessment process when he discusses the learning process of children. In this process the student's awareness of being assessed is enough to remind them of how she stands in relation to the assessor and others. *If we do not allow for the way she perceives this 'neglected situation' we are able to misinterpret her performance and ability* (Goffman, 1976).

This is important in terms of the status of the child in the class and the use of language to label that child. By language labelling one means terms such as: 'why do I get the worst class?', 'they are the bright students there, the dull ones are over here.' (Rowntree, 1987).
This labelling and categorisation can then be in the form of merits, awards, positions in class etc. This in turn can lead to a competitive aspect of assessment.
'We may like to think of learning as a free commodity. For example for a whole class to understand the basic graphic components or the principles of foundations requires effort on the part of the teacher and students but these principles are not damaged by more people knowing them. However when they become part of a course which is graded and approved for recognition then they too become tools of selection and by extension competition' (Rowntree 1987: 50).

The example given by Rowntree is of a student who is weak in the class and knows that they are weak and when asked a question by a teacher is unable to respond. When he is

unable to respond another student is asked. She is a strong student and knows the answer. She gets the answer correct and in the process she feels happy. The question posed is why does she feel joy at the expense of the other student's misery?
'Perhaps the reason is that she has been persuaded that teacher-approval, whatever other more tangible extrinsic rewards may follow, are in short supply and to gain what she needs she must not simply (or even necessarily) improve but also get (or merely stay) ahead of others.' (Rowntree 1987: 52)

From this it is apparent that in the class the student positions themselves in relation to other people in the class. Am I doing better than everybody else? Am I learning at a slower pace? Am I behind in my assignment?
'Activities, tasks, functions and understandings do not exist in isolation: they are part of broader systems of relations in which they have meaning. These systems of relations arise out of and are reproduced and developed within social communities, which are in part systems of relations among persons' (Lave and Wenger 1991: 53).

People learn by participating in the practices, knowing is not a stable property but as a property which is relative to situations. The practice of the crit is a central part of the knowledge forming of the student. The question to follow on from this is who make up the assessors? And who determines who gets the merits?

The crit – expert panel

Tessmer argues that expert reviews do not involve the learners in that expert reviews can be primarily concerned with giving judgements (Tessmer, 1993). A second disadvantage is that expert reviews can be costly. In such cases the temptation is to fall back on friends or co-employees and designate them as experts whatever their background.

Who then is an expert? Also arising from this question: how should the review be conducted? The simple view is that when one gets a person knowledgeable about the content of the instruction to look it over, tell them to review it. The 'what do you think?' question is the one that is typically asked of the reviewer in such circumstances. However this simple approach, though time effective, can often miss many of the learning goals. Expert reviews should be about what is to be learned from the review and then from this what experts can provide that information. The expert review can cover a larger array of information such as content. No one expert can be proficient in all areas. The type of expert selected should be based on what the learning objectives are.

Who you could choose for an expert review is categorised by Tessmer in a number of headings:

Subject matter expert. Someone with a current and thorough knowledge. This knowledge can be achieved throughout traditional methods studying or teaching. However in the case of architecture this can also be accumulated through experience. If the project say for example is a hospital then it would be appropriate to bring in an architect with relevant working knowledge of the subject.

Teaching/ Training expert. The final proof of the 'learnability' of instruction comes from the learners via one-to-one, small group. The teacher/training expert can also spot instructional problems before the instruction is given to learners.

Subject Sophisticates This is the hybrid between student/teacher which is common amongst American universities. This is less common in Ireland. However it should be noted that at a number of reviews senior students are sometimes are used to give an opinion. They can be a useful compliment to the teacher in that the subject sophisticate are often much closer to the students perspective point of view.

Instructional Design Expert Review designers can often review the design of the instruction itself. To evaluate your project a designer can be asked if the instructional need and problem are clearly defined.

What kind of designer makes the best design expert? One who has designed similar content with similar learners can be very useful, but the best criteria for selecting a designer are the five questions mentioned in the last section: what is new, weak, strong, unsure and changeable about the instruction?
(Tessmer, 1993)
Throughout Tessmer's discussion of the review and the experts present at the review, the role of the student appears as secondary. He does not regard the student as sharing a role other than to provide material for comment.

Type of knowledge

Cognitive psychology differentiates between the two modes of thinking: intuitive and discursive. DeBono states that both of these modes of thinking are involved in the design process.

Intuitive thinking can be described as 'holistic' that is characterised by creative leaps. These leaps are the quick and economical handing of cognitive routine tasks and do not need conscious attention. It is difficult to quantify and measure this mode of thinking. (De Bono 1967)
Discursive thinking is conscious, conceptual thinking based on rational decisions. Solutions are derived by breaking problems down into smaller sub-problems, which are then solved by a series of consecutive logical thinking steps. The conscious analysis of each step provides the basis for an unequivocal communication, discussion and verification of the process. These abilities have to be developed in a long learning process.

Both the discursive and the intuitive thinking are aimed to be discussed and taught at the crit (Doige et al. 2000). In this sense the design strategy relying primarily on intuitive

thinking processes can be described as *intuitive* design, while the design strategy based on discursive thinking can be defined as *analytical* design. An analogy to this type of knowledge is the ant and human societies. If an entire colony of ants is wiped out the next generation would be able to construct the whole colony again without any maps, plans or instruction from an older generation. Human knowledge does not work the same way. Rather it exists in a context: historical, cultural and political and it is this knowledge that makes up the sum of what is 'known' at any given time (Cross 2001).

Intuitive design is always difficult to fully explain rationally. Often the terms: 'it's the right way to do it' are used. Intuitive design is an evolutionary process that includes not only a succession of many product generations but often spans over several generations of designers. Similar to the construction of medieval cathedrals discussed by Pevsner (1950), Watkin (2000) and others, the knowledge is a slow and labour intensive search for a problem-solving solution but it can generate complete designs.

Cross (2001) states that intuitive design is knowledge inherent in the activity of designing gained through engaging in and reflecting on that activity. Some of it is knowledge inherent in the artefacts of the artificial world (e.g. in their forms and configurations- knowledge that is used in copying form, reusing or varying aspects of existing artefacts) gained through using and reflecting upon the use of those artefacts. Examples include revising or improving on previous designs or examples from nature. In addition some of each of these forms of knowledge also can be gained through instruction in them. Design guidelines are therefore handed down in the form of thumb rules. This commonly takes place as ostensive, hands-on learning by showing and imitating in a master-pupil setting.

The range of possible design solutions is limited by more or less normative traditions that define what is commonly regarded as 'good design'. As long as the designer obeys the framework set by tradition, there is a high likelihood that the design solution will be successful. The design is evaluated by an intuitive comparison with the respective design

tradition. Consequently design decisions can only be explained in reference to the tradition and not with regard to the active design principles. A rational analysis and evaluation of the design is not necessary since the design is already legitimised by staying within the boundaries of the design tradition (Cross 2001). New ideas that are exceeding these boundaries are often perceived as disconcerting since they are questioning the authority of the tradition.

Analytical design processes are based on the methodical investigation of the design problem. The analysis is used to generate an interpretation of the design problem, thus reducing the range of possible solutions and providing the starting point of the design problem. The possibility to break up the design problem into clearly defined sub-problems provides the basis of the design. During the problem- solving process existing traditions or pre-conceived solutions are tested by consciously questioning all design parameters.

These principles lead to a condition of deriving every solution exclusively from the design problem while avoiding considering preconceived solutions. Nevertheless, successful designs can become trend-setting archetypes for future intuitive design processes (Cross 2001). The architect needs to utilise both types of thinking to produce a successful design

	Intuitive Thinking	***Discursive Thinking***
Design Strategy	Intuitive Design	Analytical Design
Knowledge Basis	Empirical accumulation of practical knowledge	theory based knowledge of principles
Knowledge Storage	Informal: traditions by word of mouth,etc.	Formal: texts drawings
Communication of Knowledge	ostensive learning hands-on learning imitation of master	teaching of design principles communicating theories

(Adapted from Schneider, 2004).

Implicit in this knowledge of intuitive and discursive thinking is Guildford's studies on creative thinking where he describes the necessary skills for creative problem solving being related to a mental ability called divergent thinking. In this people diverge from what is known to produce a new idea. This is similar to what DeBono calls lateral thinking (DeBono, 1967). Guildford concluded that divergent thinking comprised separate abilities called fluency, flexibility and originality. The next phase was what he termed convergent thinking. Convergent thinking was the next step after divergent thinking where after producing many ideas, logic and information in order to produce a solution.

Therefore the process of design for architects moves between the realms of the intuitive i.e. what they themselves have explored, or studied and the analytical i.e. what they have drawn as a solution from a series of steps.

'it would make much better sense to call creative processes convergent.....the designer in choosing one from many ...one the distinguishing features of the good designer is the ability to converge from a wide base onto a good choice.' (French 1988: 27)

Teaching of design

As outlined in the journal Crit XV, Voelker (1985) states that the main aims of what he terms a 'psychological' approach to education and the manner in which crits are conducted should be:

1. An increased objectification of the design process.

2. Enhanced methods of teaching design.

3. The discovery of new approaches to communications among clients and designers.

The objectification of the design process implies that the individual tutor can be removed from allowing their own biases from being present in the crit. It also re-opens an

examination of what the student already knows and what type of activity the student is engaged in. In contrast to the Bauhaus philosophy of thhe student being a blank slate that the tutor can write their knowledge on (Pinker 2002), rather, it is acknowledged that the student has knowledge which can be encorporated into 'new' knowledge.

What is obviously difficult when it comes to assessing this type of understanding is that it is not linear. The mind of the students is not a receptacle containing facts which tutors add new facts to one by one. In which case knowledge would be linear with additional information being connected to it like a large chain (Davis, 1998).

What is obvious in the teaching of architecture is the construction of a holistic knowledge where new experiences and experimental learning transforms the old. Connections are established between what is already known and the "new" material, the new transforms the old in to something different. Piaget refers to this process of assimilation and accommodation. Assimilation makes new knowledge fit into existing ways of thinking, concepts or structures. In this process the students existing ways of thinking are modified to cope with this new knowledge. Thus new knowledge is constructed from the old at least in part anyway (Davis, 1998).

Davis cites Skemp in defining the difference between knowledges. In an example Skemp compares two people attempting to make their way to a venue. In one case the person is told left, under the railway bridge, right, left and the church is in front of you. The first person does not have a map. If they go wrong in following the sequence they are lost. The next person has a map if they deviate from the direction sequence they can locate themselves on the map and find either their way back to the sequence or they can devise themselves a new route (Davis 1998: 60).

The position of a person without a map is likened to the mastery of a person in possession of rules or thin knowledge of facts without reason. If they forget the rule they cannot re-

construct it and cannot devise an alternative way of solving the problem. The map owner on the other hand can reconstruct a rule if they forget all or part of it. They possess relational understanding. The growth of relational understanding consists of the learner constructing an increasing number of routes from one place to another. From this the terms relational knowledge and instrumental knowledge are derived. 'Relational' deals with a deep understanding and being able to sees connections instrumental means thin knowledge being able to apply to one condition only (Davis,1998).

All tutors in the crit process would see themselves as promoting relational knowledge. Relational knowledge allows the student to construct their own map based on their own mind. This relational knowledge would allow the student to transform their intuitive skills and analytical design thinking to give the student ownership of their design project.

'...Need to connect knowledge, belief, understanding, and use and application then make a direct examination of the implications for educational assessment practices'

(Davis 1998: 74).

Summary

The origins of the process of the crit are derived from the type of knowledge being imparted to the student of architecture. The knowledge is relational and attempts to allow the student to discover their own method of resolving a building. The student learns therefore by doing in college. This learning by doing is structured to allow the student to have a method of work that can be applied to a variety of situations in college and beyond. It attempts to avoid facile or pattern book solutions to design and strives to encompass the concept of life-long learning. It attempts to achieve this by seeing each design problem as a learning vehicle in itself and that each project be they primarily fictional in college or primarily real in professional life all fulfil the same goal of providing a hands-on learning

experience. The difficulties this system gives in third level education is that the tutor is placed in the position of tutor to project, critic of project, and then finally assessor of project. If the process of the education and the role of the tutor is not clear then the system can become distorted from its desired role.

CHAPTER 5

PRESENTATION OF FINDINGS: INTERVIEWS

Presentation of interviews

This chapter outlines the themes that emerged from the interview process. Each main theme is given a heading and in turn the main comments are summarised at the end of each theme. The interviews focus on three main areas: situated learning, assessment and feedback. The contributions raise many questions about the situations in which the interviewees felt that they learned the most and what they felt was the purpose of the crit. The interviews were structured around how the interviewees felt about the experience of the crit and what they learned from the process.

The transcripts of the interview are colour coded. The red represents the negative comments, the blue the positive and the green the comments regarding the staff. The main points are summarised at the end of each heading.

Class atmosphere and peer learning

Interview 1:

I really enjoyed that year in college. It really clicked as a year. There was competitiveness and camaraderie in the year and the crits were different. There was a collective sense.
It was really good year. I was thinking, thinking, thinking.
Travelling Scholarship (an architectural ideas competition) terrible stuff (was going on)- work being hidden from each other and it was so competitive. I was the only person coming in working in the studio at this project. Usually everybody worked in the studio and this was great it was so alive in discussion. The studio atmosphere was a good and a learning environment. However this did not happen when the competition was on, everybody was cagey of everybody else.
I was hoping that the learning atmosphere would continue in the thesis year. However that did not happen. So as a result I pulled out of studio and I did not work there.

Interview 4:

I did not enjoy my time in college some of the social aspect was good but no, I cannot say I enjoyed it.

Interview 5:

One year in particular was a good year it was a smaller class and it was more mixed - a lot of the class was made up of older people and the class was disjointed and we were getting to know each other again. We were a really tight class, we helped each other out. The closeness of the class helped me when I was going through my studies.
The breakdown of college is academic and then the studio side. The academic stuff you get out of the way. Work in groups coming up to exam time 'you do this and you do that', and then we would cover the subject-easy.

(In the good year) People are more comfortable and we were not afraid to put ourselves out there and we could go to other students and they could come to us and talk about what they were doing.

In the good year when it came to wall crits you did not have the rugby lads or the cool dudes sniggering in the back - in later years you were much more comfortable... that the people were not laughing at your work and the class was supportive, that the students were able to say x,y or z or hold on a minute what the person(student or critic) is really trying to say. It is not easy to do this without a support network.

In the earlier years I was hanging at the back hoping that I would not get picked and not get asked for a crit.

One student was afraid, the crit was not going well and the student cried through the crit where one critic said something and then a number of the students said (to the critic) hold on a minute: 'you are wrong.'

I remember in one review one of the students had gone through what they were going to say with me in advance and I was able to add some comments that she had forgotten.

I learned a lot from the other students, you do not learn from a wall crit because it is not going in, it is too traumatic. Sometimes sitting down with other students is very useful. Tutors C, R were very stimulating in crits, Y can be a bit bull-headed.

The desk crits are great A,B,C were great at the desk they helped me move along taking the gibberish that comes out of your mouth and making sense of it. The desk crits and from other students was where I learn the most.

Interview 6:

The class is very important. The atmosphere is important you need to want to go, you want to have someone who you could talk to, to help you on to push you along. Hard core number of people, there is nothing like a good dose of terror to spur you onto great things. The healthy fear of failure does not do any harm. Not too much though because that can get in the way.

Schools have different personalities. The atmosphere in the class was vital and when I went into the class the atmosphere was not inclusive. I felt that the class did not do stuff together, the feeling was so competitive, the facilities were so dreary and you were so very alone. No-one would go out of their way to help you staff and students. You had to ask, ask, ask all the time. Personalities, the atmosphere of the class are important and being able to work 24/7. This course is not like accountants you need to be able to work all the time.
You need to get a choice of ideas, it should not be the lecturer saying it should be more like x and then you make it like x. I would welcome comments from other students it's as valid as my idea and it is very important what my peers think. I can only read so many books and travel to so many buildings whereas if you pool your resources together you can get more ideas.
In x year we (the students) clicked that it was not a competition and everybody realised that you could help each other, like I have seen something in a magazine which is relevant. You started to care about people.(in the class)

Interview 7:

The people in the class got on very well but the course was not really structured enough, people were not given enough instruction in the design side of things and you could work all night every night and you still get a bad crit. It seemed unfair. I suppose we were from formal education, we did well academically where you worked hard and you got on well.

Interview 8:

You can see what variety of answers there are. I always felt that there was something to be learnt from the other schemes as well. The bulk of the learning was self- reflection and to have your own way of doing things. That's the way it is in college where you are working on your own.
I find it more intense at post-graduates at first year where you have to teach them quickly. You have a lot less time with them. The numbers are smaller. A group dynamic builds up faster amongst smaller groups and you find that the group works better when it is smaller

(from a teaching point of view). They remember each others work. They (the students) stay within their time slot, the students all stay to watch everybody's crit. It is not like say a class of fifty where people will only stay for a few crits and then go. These groups are about a size of ten or so. If things go on for hours and hours then students attention begins to wane and then the same for the tutors they get tired and it becomes like a conveyor belt. Smaller groups are better. Fifteen should be the maximum.

Key points in relation to learning in crits:

- Student to student learning occurs in a supportive environment where students feel they are not in competition with each other.

- A smaller group of students allows more time for students to express their opinions and hence learn from each other.

- The closeness of the students can enhance the learning of the crit with an increased willingness to take on the role of teacher/ critic as opposed to passive observer.

Students' perception of the role of the staff

Interview 1:

In the good year where I learnt the tutors were facilitators and did not get in the way when they did not have to. There are upper leagues and the lower leagues in every class. I thought that there was an overall lifting in this year.

There was a generosity of thought amongst the tutors.

They (the tutors) appreciated the dialogue in the crits we(the students) took over ownership of the studio and the crits. Once you get that going then self-learning is happening and it is there.

There is a danger, I think that there is an anti- student/tutor thing you pick up. This is probably a stage in life. You look at the students and think that they know nothing and they are wandering in here drinking coffee and they know nothing about the real world and that's the way it works. You really have to watch yourself about this. You can fall into that and to an extent I do and so do others.

It is kind of a self loathing as well. I was there as a student I drank the coffee and wasted time as well. It is a weakness in yourself as a teacher and you do have to be careful.

Interview 2:

Project discussions seemed like an inner game going on between the staff. One of the problems was the formality of it. They were on one side and we on another.

Tutors were just judging us and told us to get a concept and we just did not have a clue. All of us did not know what that meant for example x who is now a well know design architect was there along with myself wondering what they meant. X was very conceptual, x is that type of person and x had not a clue. I remember drawing trees and cars wondering if this was a concept, I mean crazy stuff. No teaching, we were expected to come in with a concept.

Interview 3:

Whereas in College some tutors would have an agenda going on. I mean you could see at crits that some tutors would have an agenda. They (the tutors) would see themselves as being more important and influential that others scoring points off each other. I suppose that is human nature, that did not happen in the office situation. I am sure it happens in the large office situations. In the offices I have worked in it was a more co-operative effort.

In the crits and review situations the stronger personalities would be the ones to listen to, the ones who would be more vocal would be more powerful at the end of the day. You

would not pay attention to those who were less powerful. You would imaging that they would not have such a great say. You paid attention to the powerful ones, you were going to be marked by these people and it was important that they liked your work. Your grades would depend on them that would be the importance of the tutors standing.

Interview 4:

I felt that the tutors at times were not listening to what I wanted to do and that the tutors were instead doing what they enjoyed doing. They were not responding to what I was trying to do they were only interested in their own thing.

There was a sense that the critics were badgering back and forth and kidding around amongst themselves. It was a long day, it was hard work and their comments in a way were aimed at each other. This is fine in an intimate situation but in a public one the student feels excluded from this. Students do not have to defend their own work, they have to listen to the critics and I understand it would be progress if the students could participate. The danger is then that it could become a jury and defendant situation.

It should be a conversation about your work in an ideal situation. You bring some work to the table and you listen to what people say about it. The difference between that and what I had was an issue of tone.

What I went through was critics sitting in judgement and having to get through all this work and having to get through a whole bunch of them in a day.

Interview 5:

The crits were sometimes a battle in which we were trying to fight our corner with the lecturers. X year was a big battle all the way through. There was some conflict between the staff and we, the students could see that. The staff clearly did not get along and this came out in the reviews which I felt was not professional and the lecturers would cut across each other in the reviews. One tutor tended to take favourites because they thought along the same lines as the tutor. Some schemes were told they were brilliant and that they were a genius and so on and I used to think why don't I rub out my name and put someone else's

name to it and see if I get the same review. I mean as students we could see that the scheme did not really work and we felt that yes, there were definitely favourites.

I mean there is a lot of waffle and rubbish spoken at the crits, they use big words and you have to go to the dictionary to look it up to see what it means. I mean, hang on a bit it is not about ego, architect using fancy words. M (poor tutor) and others used high-faulting language and the words were not useful. B (good tutor) said the drawings should speak which was great, you should have drawings, you cannot speak, they(the drawings) have to speak for you.

I do not have a whole lot of time for the pompous side of architecture, you know, the you scratch my back, I will scratch yours. The, I will give you an award this year and you will give me one next. This starts in college it should be about taking students and saying to students you can do this and this is how it works. Cut through the rubbish and get to the concept and that's the whole point of college.

Interview 6:

We also had really good staff. We had three permanent members of staff who were old school, hard core they did not waste time if you had not done the work then they would not bother with you. We also had three part-time younger members of staff who would stay in late in the studio and work with us. They worked all the time, they would look at references in the library and look things up for you. They would ask your personal beliefs were and found these both good and also quite tough, very disconcerting.

Interview 7:

It seemed as though the tutors were vying with each other for power. You felt you were caught in a power thing between tutors rather than any objective discussion about you scheme. They were trying to impose on people what the scheme such be. X said that this building type has to be rectangle and there was no chance to look at anything else. The background of the tutors themselves meant that they were pushing their own dogma. I felt that I learnt to get by, by conforming.

In some years you got the feeling that they were just playing off each other and they were trying to impress each other and that there were rivalries there ***and the students could get caught up on the middle.***

Key points in the students' perception of the role of staff:

- The crit experience can turn into a conversation amongst the tutors to the exclusion of the students. This happens when the tutors are seen to be more interested in the other tutors opinion rather than having the student participate in learning.

-Students can become alienated by the crit from the tutors and see them as only critics rather than teachers/ tutors. The corollary of this is that when the students perceive that they are being listened to then a learning dialogue can occur.

- The crits as well as establishing a hierarchy amongst the students also establishes a hierarchy amongst the staff as to who should be listened to by the students.

Openness to learning: emotional impact of the crit on the student

Interview1:

When I got back I started using my mouth a whole lot more. Before I went away I was afraid of the tutors. The relationship with the tutors changed.. I was back in a repeat year and I was a bit older and therefore I had a head start. I found that the staff were very supportive in that particular year.

Interview 2:

When I was in college I struggled in the first two years. You repeated a year and the new class atmosphere was better, I was older, the new class makeup was better, the new tutor had a method and it was so much easier. The 'hands on' in terms of instruction was better. The first two years were a total wreck. I could not do it. For me being told to read and look at references was the key to moving forward and pushing you off and swimming.

I was depressed in college in the early years I was trying and trying and getting nowhere I would say I was clinically depressed. I could not do it I was getting nowhere for the first time in my life. I did not know how to do it I did not get anywhere.

Interview 4:

Tone, the difference in experience I had abroad, the tone was still very critical but I had a little more confidence and I felt more able to listen and agree or disagree and I felt in a much better position to learn. It was the same format but smaller numbers twelve students in each group with one critic and in this atmosphere it was less intimidating. It was still harsh but the main difference was that I was a bit older and closer in age to the critics and I was a minor member of the cult, I was not on the outside!

Maybe that's the hard thing to overcome in college it is a lot to expect for students to come from Leaving Cert. to this system.

A lot of the people when I was in college abroad were younger than me and I was able to step back and those of us who had experience were not completely panicked and remain a little more clear headed and not be completely flipped out by the crit and not be intimidated and try to listen to what was being said.

In the programme I was in there was more variety of approaches to listen to so I probably had a better experience and I could listen a bit better to what they were saying and try to make sense of it.

Interview 6:

I did need a harsh environment at the beginning, a balance of personalities is best overall. One lecturer x is a calm lecturer x never gets bogged down in your ideas, the criticism is always constructive, x never tells you that its bad, just bad, x always gets you to go back to the library, to look at references, it could be better if you did this and this x is never outrightly negative. When you are young you are a bit 'flighty' you need someone to keep you disciplined, bringing you back, bringing you back to work harder. It's good to have that constriction.

The year I failed the staff saw I was struggling and the staff did not help me. They could have done more and even to this day I wish I could have drawn more.

Interview 7:

I had someone close to me involved in third level educational and they could not understand this hostility that was there towards the staff. On other courses I know that the lecturers would be more open and treat students as equals and even sometimes have their students around to the house and we would never have thought of that .

Other methods of education did not involve this comparison of one student to another. We gave seminars in other methods there was no feeling of playing one against the other. The feedback was positive. As you get older you have more a sense of worth. Out of school you still are very raw. You have no sense of your own worth, you are very impressionable. I think it is important that the tutors would have an ability to teach or at least be exposed to how to teach. This is especially true of young undergraduate students.

Looking back on it I feel and a lot of my friends would also feel that looking back, that the tutors did not really know an awful lot. They did not really have a lot of experience. There was no formal education, I regret that we were not taught how to design. How to design systems and proportion, you just put a scheme and got a reaction. The lack of a method... It was always a them and us and you would not join in a class discussion, at crits, you would be betraying your classmates, a silent student body.

Interview 8:

They (the students) are working with concepts that they have found and that they feel might be appropriate and try to find a line of thought. You need to mix different methods together, (in tutoring) sometimes group discussions are more useful for the student, other times one to one. You need to also consider if they are post-graduates. Post-graduates tend to have a lot less inhibitions than undergraduates and will talk in groups, they have their own opinions and they are able to pose different ideas and questions. Undergraduates find it a lot more difficult .It's the educational process that they come out of. In the Leaving Cert. scenario they are given a lot of information that they then have to give back whereas at third level you are asking their opinion all the time.

Key points in the emotional impact of the crit on the student:

-The student straight from the Leaving Certificate system can often be disorientated by the 'new' demands of third level college both in terms of their position the class and the course requirements.

- The structure of the architect's education implies that they are capable of talking to the tutors as equals. However this is not the case as the relationship that the students are familiar with up to arriving in college is based on the model of the tutor as the centre of knowledge.

- The crit at the early years can re-reinforce this tutor as centre of knowledge even though its educational goal is to attempt to engage the student in dialogue. The 'them and us' mentality can become the learning atmosphere.

Openness to learning at the crit

Interview 1:

As a student in school you were always told that you were a bright spark to get in to college. With a result then, there is a huge fear of failure. You got a good leaving cert and then if you failed and you felt you were a naughty boy.

When I had failed for the first time and I was pretty upset about it. I tried to be cool about it but in truth it was upsetting.

I took a year out and then I 'got' College. It made me much more mature and gave me a whole new perspective on life and college and everything. I knew I was capable of more.

Interview 3:

A few tutors would point out the strengths of a particular way of looking at things to see how well it would work. The strongest learning experiences would be where you could learn from other architects, they would be the strongest learning experiences. The one to one sessions were the best either to point you in one direction or one design.

They were so much more useful, the one to one as opposed to the crits. I cannot say I ever came any from any crit with any insight whereas I can say that sometimes that did happen on a one to one session.

Interview 4:

I feel I learnt more at the talks that the tutors gave each week where they talked about buildings that they liked and analysed them.

Interview 5:

The wall crits were only good for making you focus on a deadline, but maybe also for standing up for it. Wall crits were not a conversation.

The actual crit is not about architectural development. In the middle of it you did not really learn very much. However it does vary when you are watching the crits. Before your crit you are paying no attention at all. Afterwards you can be a little upset but if you hang on and calm down then sometimes you do get something from what other people are doing. The crits are good in that they do give you a deadline, I know some of the lads would just keep drawing and sketching until the cows come home if you let them.

For me anyway when tutors are better organised then there is time to sit down and talk about other things. Round table reviews are really good. B the good tutor worked us really hard it was go, go, go constantly which was perhaps a bit too much and maybe we needed more time to think. But B was interested in us.

It is important to organise the year, also how the tutors relate to each other as well, and from this the students will build a camaraderie.

Interview 6:

The external critics were not really valuable in any way. People seeing the scheme cold even though the comments were good they did not really connect to what I was trying to do. One to one is by far the most effective way to advance your ideas.

If you go to other people's crit it is more interesting to go to four or five crits and really listen to what is being said as opposed to forty or fifty and have to sit through them all and God, I mean you would need a smoke break, a cup of tea at the very least. Attention spans are quite low when you have been up all night.

Before the review I would only think about my own work only and get focused in my head what I am going to say. I would not look at anyone else's. Immediately afterwards I would write down what was said and then after a while I would look at some other peoples.

You do need a break from it, you do get tired and you do get too close to your work.

Interview 7:

I always felt that this was difficult and I never enjoyed the design process and I feel that I did not enjoy it (design). I rarely got to enjoy the (design) process. I think a lot of people had their self confidence undermined and that kills the joy. There was nobody who got through without having a rough time at some stage.

Key points in the openness to learning at the crit:

- The review does not present the ideal learning environment when the student is concerned about how they will perform. Students tend to focus on their own work and what they are going to say.

-Emotions such as lack of self-confidence or over- anxiety about the crit process block the students' ability to learn in the crit environment.

- The students learning at the crit is directly related to their own maturity and ability.

Perception of the crit as assessment

Interview 3:

I always tried to imagine what percentage I had got in each review that was the scoreline. That was the main reason for it (the crit). You might get some suggestion as to how to change it (the design) and a lot of crits would happen and you would have no suggestions. If a crit was going badly you did not listen, you just wanted this thing to be over and the embarrassment to be over.

Interview 6:

I think marks are a complete no-no. Why do you need marks in architecture? You get a 45 stuck up on the board and it means nothing. It is far more important to know why, rather than just get a number. If you say first crit really poor should have done better and final crit improved, learnt a lot. That's really important rather than 45 or 90 or whatever.

Interview 7:

College was trying to come with something that would get you through rather than get you to learn. You would often see someone get a good scheme or crit and then the next week half the schemes on the wall would look just like it.

I am quite surprised that the system is so widespread. That there is no alternative system I think it is the public discussion and assessment that undermines the confidence of the student. You could still have a public exhibition but let the assessment and discussion between student and tutor be private and that would take away the whole public thing because I am not that sure that you learn that much from the public system of looking at other peoples crits. Other than what sells or how to package it. I think a more considered or one to one would be better so that the whole class is not looking on.

Key points in the perception of the crit as assessment:

-The public nature of the assessment is highly problematic. Students tend to focus on the perceived mark that they are likely to achieve rather than seeing the crit as a discussion/learning model.

- The issue of how to mark a creative process also brings difficulties. Can an objective mark be reached or does it become a comparison of student projects.

Perceived centrality of the crit

Interview 1:

In between the upper league and lower there are the mid-core of students who do great work not in terms of results but in terms of their own improvement and experience. It should be enjoyable and great fun but you find that they learn somewhere else outside of College.

That's appalling. If find you that you cannot bring these people along and educate them in five years then there has to be something wrong. They learn a lot themselves in terms of method and their own knowledge and that is not really celebrated in College.

Interview 3:

In my job now there is nothing that the tutors used in college that I use now in dealing with the junior staff in practice. I can encourage them to use their own initiative and find out from there what to do. I do not copy the tutors techniques.

The public nature of the crit has no relevance to the job. Presentations of schemes to client, government bodies etc. are not in the same category as a crit. I do not think that a crit was useful in developing the skills that you do need to present work.

My job involves giving presentations of large groups but I did not find that the crit was useful at all. I do try to bring people around or convince them to our company's point of view. However if I did not win them over it may make one project difficult but the presentations do carry the weight of my career.

The crits felt very significant, if you could change the nature of them then maybe they would be less judgmental and more exploratory. Perhaps that what they should be whereas its main purpose was to pass judgement.

I mostly rely on my what I have learnt after college. Yeah, I think that is correct.

Interview 4:

Sometimes the tutors could have done better to explain why things were not good. They could explain in a constructive way why it did not look good.

Crits were public reinforcement of ideas, they were not learning, there was too much stress attached to the whole thing. I do not remember coming away from crits with any revelation or any idea of how to progress. I think reviewing fifty students is too much and it is not possible to sustain concentration for long periods of time. I feel like a lot of the time the crit was about why they did not like mine and they did like hers. That was about it that's all I could take out of it. I think one on one was more helpful.

Maybe for the stronger students it was a useful learning tool positive reinforcement in that you were participating in the crit. You would have an opportunity to have a conversation about your work. When you were struggling it was a completely different relationship and I was not involved and not participating.

Interview 5:

I suppose what I was worried about most was the wall crits. They were so awful. In the good year they were grand because I felt they were trying to help. But in a bad one – no.

In the early years nobody knows what they were doing. People would leave crits crying and you were reduced to tears and I know that the tutors can come in a bad mood, you know, maybe that the students had not done enough work but to be so vicious and reduce people to tears? I am not really sure why they were doing this.

It was very difficult in the hard year and the favouritism tended to break the class into groups. The system tended to divide the class into groups who did not like you and would be waiting for you to slip up and make a mistake and then they could laugh at you.

Interview 6:

People were presenting things and I found it frustrating and I did not waffle. I found it frustrating that other people who did waffle go on better than I did they were presenting

ideas that did not work but were waffling and go better marks than I did. I mean come on people. I failed half way through the year.

Interview 7:

I felt that it was not really a learning experience, the teachers did not have a very good background in teaching and that they were making it up as they went along.
The system really toughened you up no client ever treated you the same way. It seems to be that way all over the world, I have got friends in New Zealand, America, Australia and the like and it seems to be the same system and it I can't see that it really works.
I just think it is so sad that people who are so many years out of college are so angry about it, it shocks me that I am still so bitter about it that after all the years as the memories come back I still feel so angry about it.

Interview 8:

The crit process at the beginning is very scary, coming from the Leaving Cert this is totally different. You have to stand up in public and talk.
Architecture is a shared art, a public art, you can start off with a project that you have designed but then other people come into it, other clients, and then there are the public comments and comments in newspapers and magazines. People take over your buildings and live in them. I think crits are quite useful from that point of view in that I don't think it would have brought the students anything if everybody people submitting their drawings and then giving their comments in a sealed envelope. I don't think it is that kind of thing.

Key points in the perceived centrality of the crit:

- If the crit is the centre of the education process for an architect then the learning and students process can be overlooked in the process of praising the select strong students.

- There is a danger that the crit becomes a performance and moves away from its learning objectives.

- The tutors often being primarily practitioners rather than full time teachers can often promote their own aims or lack clarity as to their roles.

Learning in the crit

Interview1:

No learning in the crit at all especially in the first few years. It is your turn to quake in your boots.

Because you are afraid you are passive you do not own it, if you are afraid you are not listening and when you are not being critted you are passive. When it is over, you are in a crowd and you are safe. How much you learn in a crit. How much talking should the students be doing? If it all the tutors then that's not a crit, that's a lecture and that's not good.

If the studio works the crit will work. If the students should take hold of both the crit and the studio. The tutors need to facilitate the students to do this- that is the role of the tutor.

Interview2:

I learnt nothing in a crit situation. I gained most from lecturers from one to one sessions. (Learning through) mostly architects talking about their work, their enthusiasm and their thought process. These lectures (which were organised by the tutors in college) were fantastic that way you could get your own ideas going.

Travelling abroad was also important.

A lot of time was spent at crits. But no I did not learn from them I was too tired. I was always tired and not taking in what was being said. You always watched everybody else's but only to talk and see how you were doing. There was so much on the line at the crit.

Interview 3:

They (the crits) were a public spectacle they were funny or humiliating, they were not an educational experience. It was a bit like the Romans and the Christians in the arena, a show.

They (the crits) were only to compare your standing with other students, not learning experiences. Sometimes visiting critics were ok you might learn from them, but not most of the time. A different perspective would sometimes be useful and some of them were worthwhile to listen to them.

Interview 6:

One on one studio talks are the best and to have someone who knows your work and your scheme and is able to tell you, you are going down a blind alley. I felt that the pinup crits were a bit rushed and when I failed one project it (the presentation) lasted less than five minutes. Those one on one talks were what made it for me. Architecture should not be about one set of drawings it should be about the process and why did you get to where you were.

The crits should be smaller when you are standing up in front of fifty people and there are ten people at the back having a their own conversation and drinking coffee and there you

are trying to concentrate on what is being said. If it was say five people and it was more of a discussion rather than a monologue it would be a lot better and a lot faster.

Interview 7:

I felt that the I learnt most on a one to one basis, where the tutor was sitting down with you rather than this public flogging that went on for three days, being put through the mill. I suppose you were not afraid at the board I certainly remember the crits beings very quiet the students in a them and us situation, the mass of students sat very quiet. There was a bonding situation in the class we gave each other formal crits, and helped each other especially as it was a them and us situation. We were all against 'them'.

Presumably there are reasons for it, they did learn something also the way learning to perform. The tutor sitting down at your drawing board and talking about your idea I felt that I got more out of it as opposed to this parade, this exhibitionist thing.

Interview 8:

The discussions at crits are valid in that everybody learns from everybody. Students from each other, they learn from the tutors, the tutors learn from each other and from the students. When you set a programme you are never sure what the response will be. Tutors should be setting new tasks all the time to learn something new.

Key points in the learning in the crit:

- Little or no learning in a crit situation. One voice expressed the opposite view- that student was consistently first in their class.

- Due to the class sizes an enormous amount of time is spent at crits but the return in student learning does not match up.

- The fear of being publicly assessed prevents students 'owning' the crit process and act as a barrier to learning.

Atmosphere of the crit

Interview 1:

In the early years it was a childish fear, a teenage fear I did not understand the language being used. I had a close relative who was an architect and they helped me. I did not know what was being said to me in the early years.

In terms of who is to blame for the failure it's a percentage thing there is a huge amount of me in it, but it is also that nurturing thing. I did not feel like they (the tutors) were there to help.

The horrible thing of the first crit. You have to explain your project in front of fifty people and four critics, not even defend it, just explain it you are so vulnerable. It stays with you for three years, at the end of the week you have that fear.

Interview 2:

The outstanding memory in college is they (the crits) were very personal, maybe too personal and being very tired. You were at a low ebb you were trying to put everything you had in to a project. Project discussions going on between the staff and not really involving you. You were presenting and you were up all night the night before working.

Interview 3:

You would always be nervous before the crit.

For a few days before you would be working quite hard. On the day of the review you would be very anxious. Anxiety would be the main emotion.

You would watch the people before you to try to gauge how they were getting on. You might get something from this but it was mainly to see how they were getting on in relation to my own work. Sometimes you might get something from it but mostly nothing.

After your crit was over there was a great sense of relief. If it went well you would be happy, if it went badly you would feel quite dead about it. You would not really look at the ones afterwards. You might hang around if your friend was next. You might look at one or two before you just to gauge the tone of them.

Interview 6:

They (the crits) were always on a Monday morning and you would be working the whole week end and you would be really tired. Maybe doing three all-nighters in a row.

Interview 7:

The crits were the most memorable, the most dramatic, mostly humiliating rather than any meaningful discussion, mostly negative for everyone, no one got off scot-free over the five years. It was always a case of this is not good I do not like it now go away and do something else.

People should not be treated this way and what I did afterwards (in practice) was a reaction to this. In the 'real world' I try to encourage people rather than run them down. You do not find fault with other people in public. There are other people more bitter than me in practice from around the world.

The crit system is the main reason why people drop out I mean anyone can take a bad mark in an exam because it is private whereas the crit system is so public. How people talk to you and how they look. I think most of my learning occurred from other students and from one to one.

I got by all right, it was just watching other people's crits / problems was terrible.

You were just so scared waiting for your own review you did not really listen. I know some people who were so scared at their review that they would have to ask somebody else how did I do. They could not absorb what was being said to them or what the tone of the thing was. Afterwards you would disappear to drown your sorrows or celebrate.
I don't know if you learnt that much from other people. You usually were too tired, there were crits where people fainted, where people cried, I do not think that, that's what education is about. How can you learn? You can't when you are that upset and you feel so embarrassed when it is somebody else, rather than taking in what is being said. Physically it was a really demanding process.

Interview 8:

The other things about the course is that it is quite condensed and if you tried to say learn it from a book you are getting only one opinion. In a book you are fortunate if you can remember one phrase. You have to be concise. (as a critic). In a crit you are getting, (a variety of opinions). You had the advantage of many opinions and points of view and usually the comments were quite concise about your scheme.

Key points in atmosphere of the crit:

- The format of the crit can be intimidating and in these circumstances it becomes more like a trial or an ordeal rather than a learning experience.

- The anxiety felt before the review divorces the student from the opportunity to learn after the review the student is again not in a position to learn as they focus on the comments from their own review.

- The tone the critics set is crucial to the opportunity to learn.

- The variety of opinions give the opportunity for condense and succinct comments about your scheme.

Methods of teaching design

Interview 1:

As a tutor I tried to break the circle. Seriously, this is the best way, is to –re-organise the seating. For the students you need to say to the students that it is ok to make mistakes, to keep making that first dumb move. It also the physical space : you need to wander around, and talk from the back do not sit in a circle.

You need to breaking the circle.

If (you are a tutor) you can talk in terms of dense language. You need to watch your language in the early years. You do it because you are and expert and you use your flowery language because you enjoy it. You need to say it in English, it is really hard to do you must concentrate really hard. You cannot be safe in your own body of knowledge.

Smaller groups work in learning there is a layer of interaction: the one on one which is great, then groups of six. If you talk to small groups of six the problems go and the fear goes, and they might talk in a small group sitting down. Then there is a chance that people may actually work together as they are sitting down together. Talk about each others work and schemes.

Interview 2:

An equal amount of time should be given to all student's projects. Even though some projects were better than others and generated more discussions than others. There should be enough time for everyone. There was a lack of information, training and guidance. You have to remember everybody was bright, everybody worked hard everybody tried. There was very little instruction, very little information you were expected to generate it yourself in a vacuum. A lack of instruction.

There was one tutor who made a difference. This person had done a masters and he had taught elsewhere. X was the first person to give references and as a student to realise that there was a method and typologies that you could look at, to design and this could be done. There was such a change in College and I changed I was able to progress.

There was the amount of work, the lack of skills given. There are techniques for doing things we should have been given more time to talk about techniques of skill how to produce ideas, work smarter. You could spend as much or as little time as you like on your project. It was the lack of time and direction. Anyone can learn how to draw, the majority of architecture can be taught however we were not made to feel that, again the lack of direction.

If I ran a college I would work smarter learn techniques, be more human, take time out, have a better time in College. I would do more one to one because more time is concentrated on you.

The basics of architecture were not really taught. It is introduced and you are meant to pick it up as you go along. The project management of work could feed back into how you work as an architect. These are just basic skills that could be taught especially on such a long course.

Crit were of some use in that I suppose I feel there were deadlines and you had to get work done which was good. In business I would present only to one two or three and build up a relationship to with these whereas a crit does not present real life. You never have to do this in a large group. It was hard, the crit system. Learning to design is the most important skill.

The tone and the language used is very important, the tutors should be trying to get people to enjoy it and be happy doing it and the students need the information.
My brothers who went to college had a completely different experience they partied from start of year to Easter and we did not.
Learning was driven by the personality of the tutors, a good tutor is very special, you learn if the tutors are gifted and a gifted teacher is very special.

Interview 3:

A lot of hard work that's the memory of college. College did not seem to be very well structured in my recollection. Having done the Leaving (Cert.) the subjects were sorted the syllabus was fine the course was good.
In college the subjects were fine they were cut and dried, the studio work was poorly organised. First year was quite well structured. I found first year quite hard it was dealing with stuff I had not come across before lets say form, space and light. These things that you never come across before. But they did introduce them well and it was a case of sink or swim. I guess I did manage to swim. I did not really enjoy it, it was ok, it was quite hard. I think (in college)you are exposed to a little less structured and ordered education. (than secondary school)
It was not as proscribed in the following years and there was a bit more freedom.
After this I found the later years more difficult in terms of the project work. I never saw written down any learning objective what you were supposed to learn at the end of the project. It was never put down on a piece of paper you would get the (architectural)brief for the project on a piece of paper.
Since I left college I have done a few courses and I found them to be much easier than the design crits. They (these courses) have been more focused on a body of knowledge and then how that knowledge is applied. Lecture and assignments (on these courses)were more relevant and the feedback is one to one, not a huge amount of it, there is less power given to the tutor in this set up.

Interview 4:

The tutors...it was not something they could show you in a book. Lessons that they could not articulate.

It was a mysterious cult they were trying to propagate, this trying to make it difficult. It is easy to say this, however they may have been trying to teach something that is difficult to teach. I still think that there was an element that the teaching method made it more difficult that it really was. (Architecture) It was about the bolt of inspiration that flash where as I did not think that it is. I wonder could it have been taught in a more simple, straight forward way.

It felt like we were trying to find our own voice, a mode of expression where as it is mostly learning a skill. Rather than a certain mysterious design which we could not understand what it is. Finding your own voice and expression, where maybe it is about learning how to do things. You have your whole life to learn how to find your own voice.

The tutors had no qualifications in teaching, they worked in practice.

Teaching skills is important when developing, whereas copying something is no use.

I got through the first two years copying something and not really understanding it. I then got lost in the later years when the projects got more complex and I found that I could no longer copy. It reminded me of when I was a child and was learning to play the guitar. What I was really doing was barely able to read the music when I got familiar with the tune I was able to keep practicing and then I would be able to play the piece but I could not read music and I had not learned to read music, I was learning by rote. So it sounded familiar and then I could not play something that I had practised that whole week. Eventually I got caught out the music teacher realised that I could read music. It was a bit like that in college where I felt I got found out I could not perform or design when I could not copy.

I am glad (that while I was in College) to have been encouraged to expect more out of the opportunity to design and I feel that we were really being prepared to build big buildings with big ideas. Every year in college we cranked out five buildings, but I wonder did it always have to be a building?

Maybe we should have looked at materials and that would have been more useful and open me up to that way of thinking.

Drawing what the tutor means is really helpful. Often crits are words trying to describe a project and often the words that the critic said are hard to put together.

When I was tutoring I tried to get students to make things for example students were given plywood and told to make things. At the end of three weeks then they would have a box and they had made something real and it was not just a drawing. Try to step out of the process they were in, not to make it prosaic and common but to make it real and in practice I felt it is a lot about the detail and how it is made and to make it real. I was essentially using the same methods having reviews and having invited critics and have the students pin up their work. It is important to allow the students to see everybody's work and in one on one (tutoring sessions) this does not happen.

I also see a value of having a discussion about architecture in large groups.

Interview 5:

Different approaches were tried: sometimes that other students were asked to make comments but it would not work because that you did not want to be seen making negative comments in front of the lecturer. This would change a bit in the later years where you would be less afraid.

The good tutor tries to get at what you are saying rather than imposing their own will on you. I think someone who is willing to listen to what you want to do and try to get something out of it. If only that they did it once a week to try to get their head around it to have a conversation with you. X would sketch and try a couple of ideas and try to see if this is what you want. You got all their attention for that time that's great. X would say: 'I was thinking about this last night and how about this and how about that?. If there was one thing that would be it. After this (the next important thing) it was organisation and how the year was organised.

The most useful thing was the drawings (the analytical drawings the tutors did) at desk crits. In wall crits a lot of time you are just nodding going yes, yes whereas you are not

really listening to what they are saying and words can be very misleading. But if you sit down with a drawing there it is in black and white you can cut through to the essence of the scheme maybe four lines and a dot –quite clear. Drawings are great the tutors who do this are being helpful. Even to get, to get the pen out and try to work it out. So you do not have to explain it in words.

I found people drawing on top of my project useful I liked it when they would scribble and sketch out little diagrams, analytical drawings exploring how the scheme would work they were very good. The tutors who kept notebooks of the scheme were great. You knew the tutor knew the scheme and that they could look at it and refer to it.

I6: *Found that I was forced to go back to the library why do things work and why do I like them. It was more constructive as opposed to being told that is **** to have a tutor say that does not work but I know what you are trying to do, go and have a look at x. As opposed to the earlier years where I was told that is **** now try again. That does not work now try to get some reference for what you are trying to do.*

Interview 7:

I suppose it came from the Bauhaus, and all the kind of method of teaching. I can see good reasons for it, you learn from other mistakes that other people made. But there was no real rigour to the discussions, tutors were taken in by fancy drawings, rather than whether the buildings really worked. The building did not do what it was meant to do.

A useful analogy of the crit system would be like trying to write a play by just reading reviews. There was no teaching involved in the crits you were just getting a review of your scheme and what they thought was wrong with it. You cannot learn to write by just reading reviews.

There was nothing positive, and what they thought of it a lot of it was the views of the tutors and what they wanted to get across about their views on life and architecture and a lot of the tutors were part time they had no teaching skills.

They were involved in practice as well and I think that showed they did not know how to bring the best out of people they were good architects I am sure but conveying that to students is another skill. They did not have any formal training.
It took the joy out of designing for a lot of people. Some people were very good in my year but a lot of them lost confidence. They were probably in the top percentages in their class (in secondary school) and it was quite a shock to be told they were not any good.

Interview 8:
College: it is your own work and you sit at a desk. In sitting at a desk that you are introverted and you are trying to solve a problem. You then come out of this by talking to someone else: a tutor or a student. It's the same in the crit process you come out of it again.
Developing a method is involved with getting stuck and then finding a way out of it, seeing where your limitations are. There has to be a method, you need tactics of approach. You rarely hit a bulls-eye where you get a scheme that works first time. You have to go back a bit and try again.
I thought that standing up and talking and getting over nerves and being heard is important. One of the first things that a new professor did for students was to teach students how to speak in public, to get over the nerves that you have and be able to give a good argument. From the point of view or teaching it is important to be able to do this. It is a useful tool for an architect. Remember you will be dealing with people who would be prejudiced against your scheme in practice: community groups etc. people who do not necessarily agree with you.
Teaching is hard in that you are trying to find a method to analyse things, you have to be quick and concise and you have to be right, and also be understandable. Those kind of things you do not learn in college. How to criticise, how to take criticism on. At best maybe a bit of discussion with the student. It takes a number of years to be able to do that and what happens is that the tutor goes back to being a student again. Getting used to the

things that they say and getting used to hearing yourself talk and being confident about what you are saying.

Key points in methods of teaching design:

- The crits can be modified so that they are less of a 'them and us' situation by changing the seating arrangement.

- The smaller groups can encourage more student interaction.

- All students work deserves attention. The selection or overemphasis on a number of students work as being worthy of more discussion or comments undermines the teaching process.

- Clearly defined learning objectives for the year and each design project need to be set out for the benefit of both staff and students.

- The essential design skills need to be covered in the early years in college to allow the students to engage fully in the discussions in crits.

- Tutors need to be cogniscent of their roles as teachers as well as critics.

- A good student/tutor working relationship based on mutual respect rather than one of hierarchy is the core of establishing a learning environment.

Defining and protecting knowledge and the cult status of architecture

Interview 1:

The problem of the crit is that is forces the cult of the individual.

In practice we all know that we would go mad working on our own. That whole skill of working with other people is taken away from the students as they are frightened. We have to work in practice with other people with other architects.

It is important to stop that four or five stars who get the great crit every week and then the rest are draughting jockeys who are forced to follow in their wake. Learning should be supporting the group rather than the individuals.

Its great to be a star, the ego thing, you are told you are great once a week, then you have a few pints in the pub. It is completely inverted logic, the people who need support are not these people(the stars) it is the people who are not doing well who need support not those who are doing well. They are the ones who need individual intensive support. If you took it out of this environment it is illogical. It's crazy in terms of teaching.

The idea, it's illogical, that you eulogise four or five students in a year as an example for everyone to follow. It breeds resentment of the education system. It breeds resentment the vast majority men and women in their forties red faced and spitting resentment about their education. There is something wrong with that and the illnesses are still there in the system and it is valid resentment.

I got the VIP club for a short time so I do not have that resentment. But there are plenty of people who are not fools and they are really resentful about it the way they were passed over.

I find that very depressing and it's a valid resentment.

Interview 2:

Another problem I had with college was the amount of time to the detriment of the rest of your life that you were expected to spend on your college work. I think this was linked to

the lack of training. You were not encouraged to take part in the rest of College life.(College protests, anything social). It brought about such negative memories of College.
I felt bitter towards it, so many other people outside the course enjoyed it (college) and I did not and is was very tough.. I got close to depression, it was so wrong, it was very unfair, it robbed all the fun out of it . If you have fun you could have got more out of it. We could have done more work if we had enjoyed it.

Interview 4:

It is funny how college defines your life as an architect. Going to college, it was like going to the seminary. Being introduced to this cult a whole new way of thinking, different language and belief system. Whether you accept it or reject it is still the religion you were brought up with you are still following it or reacting to it.
I remember the sense of helplessness, not understanding, more than anything else, being outside the world I was trying to join. Sitting in front of a blank sheet of paper not knowing what to do.

Interview 6:

*The early years were there to break us down to remove the pre-conceived ideas remove these ideas. A clean slate. A lot of people found it very intimidating, people were reduced to tears, it was like an army. Many times he (the tutor) would come in look at the work we had produced say it was **** and then leave and say there better be something good for me to crit when I get back. It was very intimidating but while some people cried I though bugger you I am going to fight back.*
I learnt how to draw. I came back and thought ok now I can draw and this is what it takes so now I will learn how to waffle. I never had any problem talking but now I wanted to waffle, to speak the architecture speak like they do. This is probably not a good idea in that now clients find this talk quite alienating. Talking about framing things, zen views etc.
Then after this I felt that I had cracked the system.

Architecture was a lifestyle it was not just something you studied. The studio was home. You ate, slept and drank architecture, it was amazing you went to a night-club and we would say: do you see the toilet details , there is this amazing sink/ wall to your friends. and that's really important perhaps a little bit unhealthy.

Architecture you would imagine to be gentle and supportive, hippie kind of. However it was a culture shock for some students. Because I went to a fairly disciplinarian school it was not so much of a shock for me. I knew how to handle it and I just dealt with it. It was not what I expected.

In the other courses there was kind of a reverence for those who chose architecture, it was so tough and other students though that we were a bit crazy. You had to be tough, stoic and those who were not, left.

Key points in defining and protecting knowledge and the cult status of architecture:

- The crit process promotes the individual and promotes the cult of the 'star' to the detriment of the group.

- The elevating of some students as being superior to others does not achieve anything in terms of learning. It runs counter to logic and teaching practice.

- The large amount of hours spent at completing the course may not be necessary if the students were taught how to manage time effectively.

-The perception that the subject is elitist runs quite strongly through the interviews and this is reinforced by the amount of hours taken to complete the projects to the exclusion of all else.

CHAPTER 6

PRESENTATION OF FINDINGS: Micro-action interventions

Introduction

This chapter outlines the themes that emerged from the micro-action interventions. In the timeframe of the thesis they occurred after the interviews and the comments/suggestions of the interviewees were often used as a starting point for the interventions. The interventions are explained and student feedback is recorded after each intervention (Mc. Niff 1998).

Action Interventions	Reason	Findings
1. Layout of space in the studio. The seats were re-arranged to allow all students and tutors access to the work presented.	This action research was undertaken to explore what if any the impact of the seating of the staff and students would have on the crit.	The layout produced a change in the student /staff dialogue. The students engaged more in the discussions at the crit.
2.Talking v. Drawing: One of the roles of the tutors is to encourage the students to draw their ideas as opposed to verbalise them. This is an	This research involved the tutors drawing a series of solutions as opposed to verbally describing them as happens in most crits.	The solution was welcomed by the students as easier to understand how to 'progress' their design. The caveat with this approach is that the

important skill for an architect to acquire as architecture is a drawn and constructed art.		student can follow the diagram too literally.
3. Who speaks at crits? This research involved 'encouraging' students to speak. Initially the students were asked to speak in turn as few would speak without invitation.	The crit was established to allow all students and staff to have a discussion about each students work. The reality due to time pressures and the marking system is that the tutors speak and the students listen	The early crits were difficult as students did not like to criticise one of their peer's work in front of the class. After a number of weeks the comments did not need to be asked from the students. However it does require small groups.
4. What is remembered at a crit?	This research explored what the student remembers about the comments said at the crit.	The student remembers very little of what is being said before their presentation.

Micro-action intervention no. 1

Layout of crit space

Before changing the crit process in a micro intervention it was essential to map the spatial sociometry of a crit in progress. Figures 1-4 on the pages following illustrate the seating, working and oral communication patterns of a four crit observed in the academic year 2003/04. The studio measures 7m by 24m. The maximum number of students in the studio is 50. The number of tutor assessors is 4. The number of chairs for the assessors is 4 and the number of chairs for the students is 40 approximately so it is not possible for all students to be seated during the crit process. There have been 10 computers added to the studio in the last three years. The room is ventilated by the windows on one side only. When the windows are open it is often too noisy to hear, so usually they remain closed and the room can get stuffy. The student's work to be discussed is placed in front of the tutors on the wall in the case of drawings and on a table in the case of architectural models. No visual aids such as OHPs, powerpoint etc. are used by the tutors in making their comments.

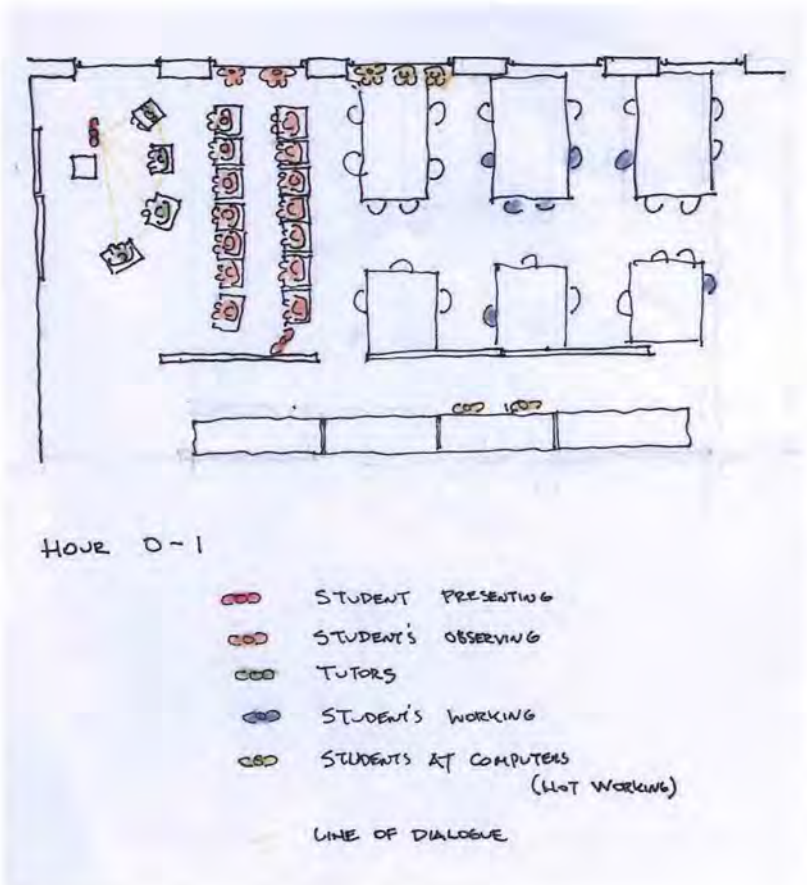


Figure 1

Figure 1 – first hour:

Most students are lined up behind the tutors/ assessors as the student presents.

- No students speaking other than the student presenting.
- Some students are working at tables.
- Some students are working at computers.
- Some are sitting on window ledges not working.
- Noise and distractions are frequent as students also use the computer to play games and talk amongst themselves.
- Tutors speak to each other and to the drawings.
- Tutors do not leave seats.

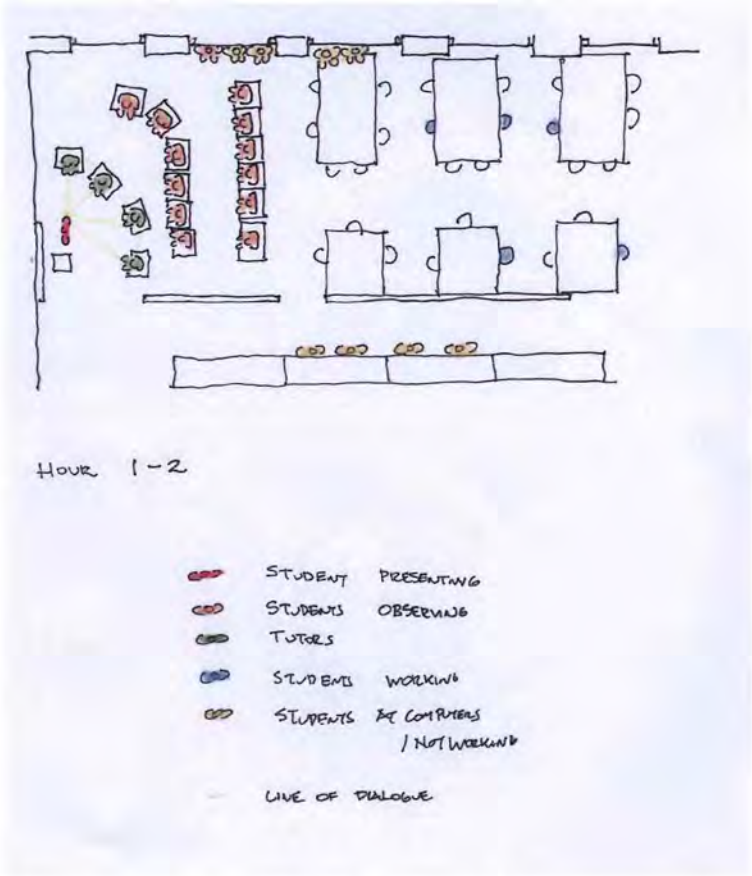


Figure 2

Observing and illustrating the 4 hour crit: hour 1-2

- Fewer students watching.
- More students at computers (not working).
- No student speaking other than the student presenting.
- Tutors talk to each other and to the student presenting.
- Tutors do not leave seats.

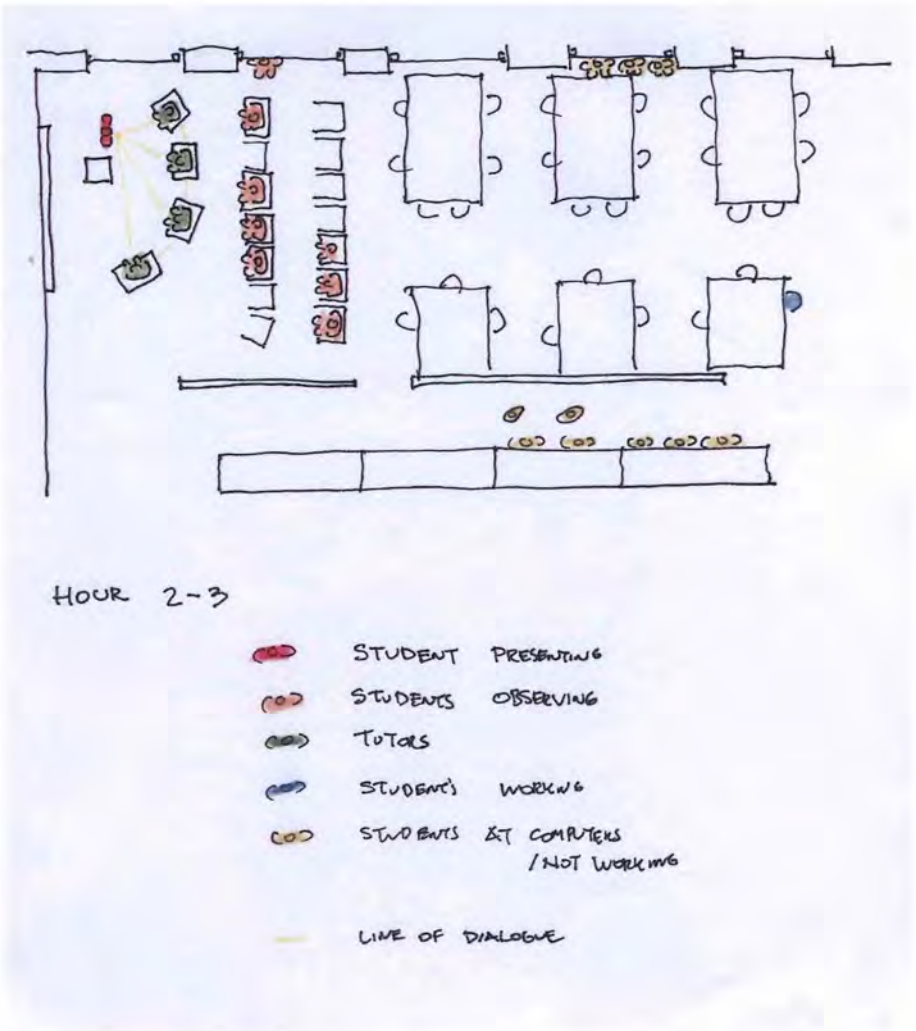


Figure 3

Figure 3: Observing and illustrating the 4 hour crit: Hour 2-3

- Few students watching.
- More empty chairs.
- More students at computers.
- Fewer students at desks.
- Cluster of students on window sill away from observation of crit.
- No student speaking except student presenting.
- Tutors do not leave seats.

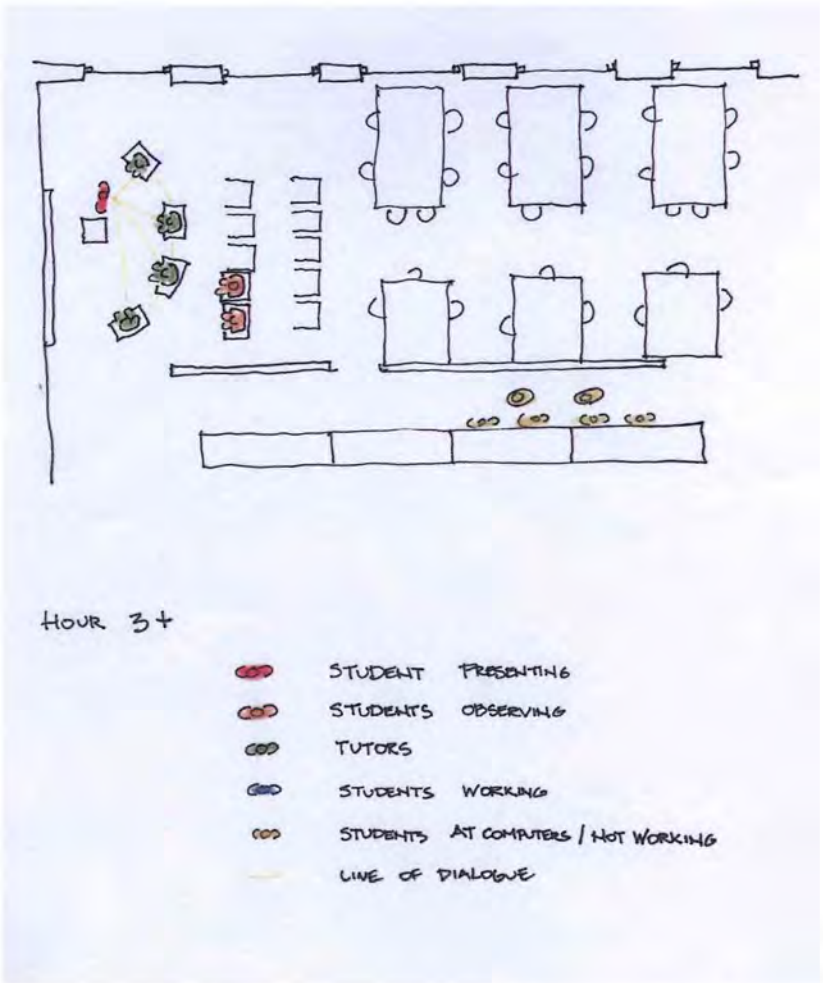


Figure 4

Figure 4: Observing and illustrating the 4 hour crit: Hour 3+

- Most students gone from room.
- No students working at desks.
- Fewer chairs.
- No student presenting except student presenting.
- Tutors talk to each other and the student presenting.
- Tutors do not leave seats.

Spatial sociometry interventions

To enhance the crit experience it was decided to use smaller student groups to evaluate changes to seating and dialogue arrangements. In this new arrangement the typical row seating – of student presenting in front, then a row of staff and then rows of students was abolished in favour of smaller groups of approximately twelve all sitting in a circle with the student's work in the middle.

From figure 5 it is obvious that the two hour crit maintained students with the circle format and enticed students from desks and window sills to participate in the discussions and analysis. The interaction is between all the participants of the crit: the tutors, the student being reviewed and the students watching the review.

From figure 6 the interaction between all is maintained for the duration of the crit however not all students participate. The focus of the discussion is still the work being presented. The student presenting in this format sat down with the group and was the focus of most exchanges.

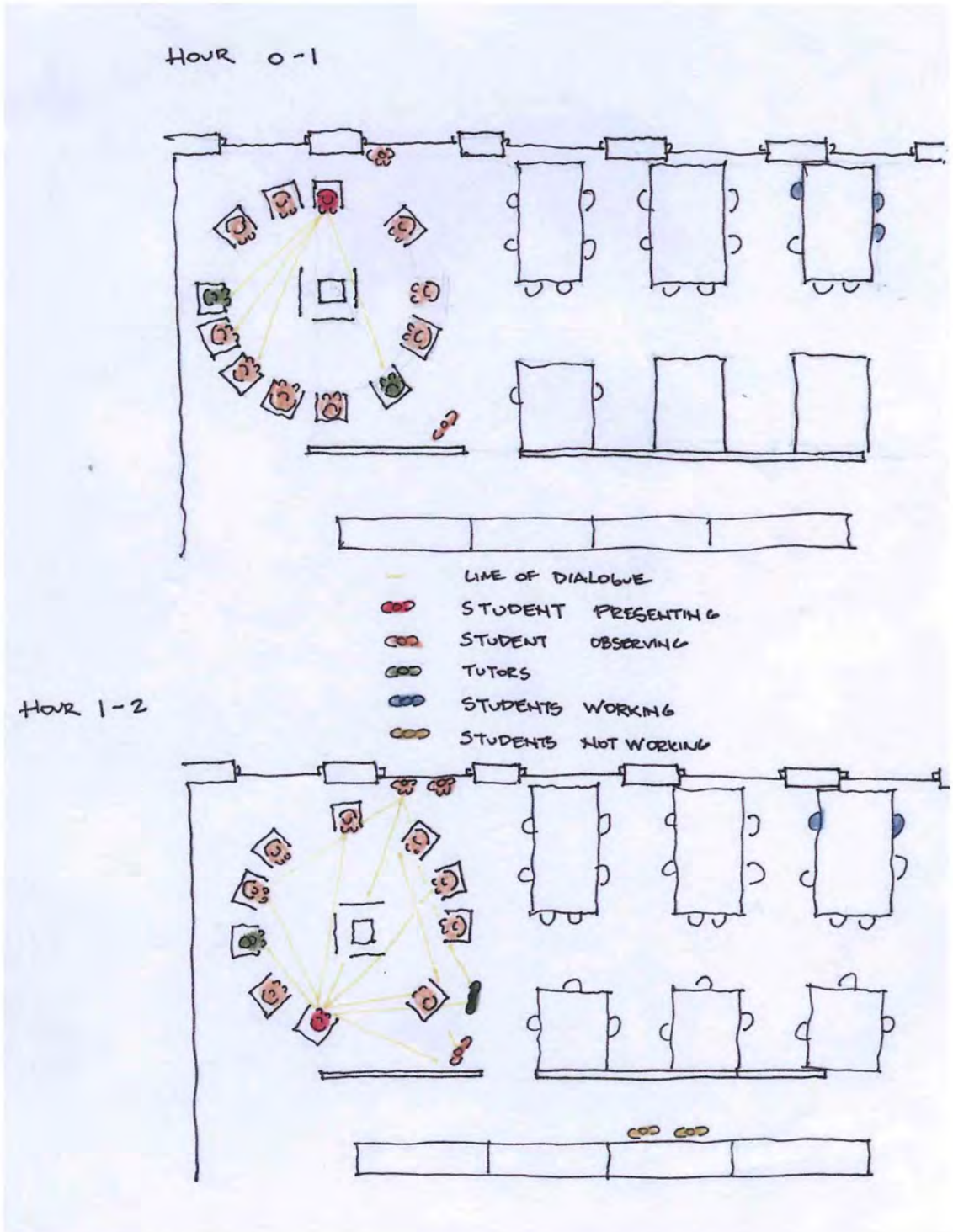

HOUR 0-1
LINE OF DIALOGUE
STUDENT PRESENTING
STUDENT OBSERVING
TUTORS
STUDENTS WORKING
STUDENTS NOT WORKING
HOUR 1-2

Figure 5

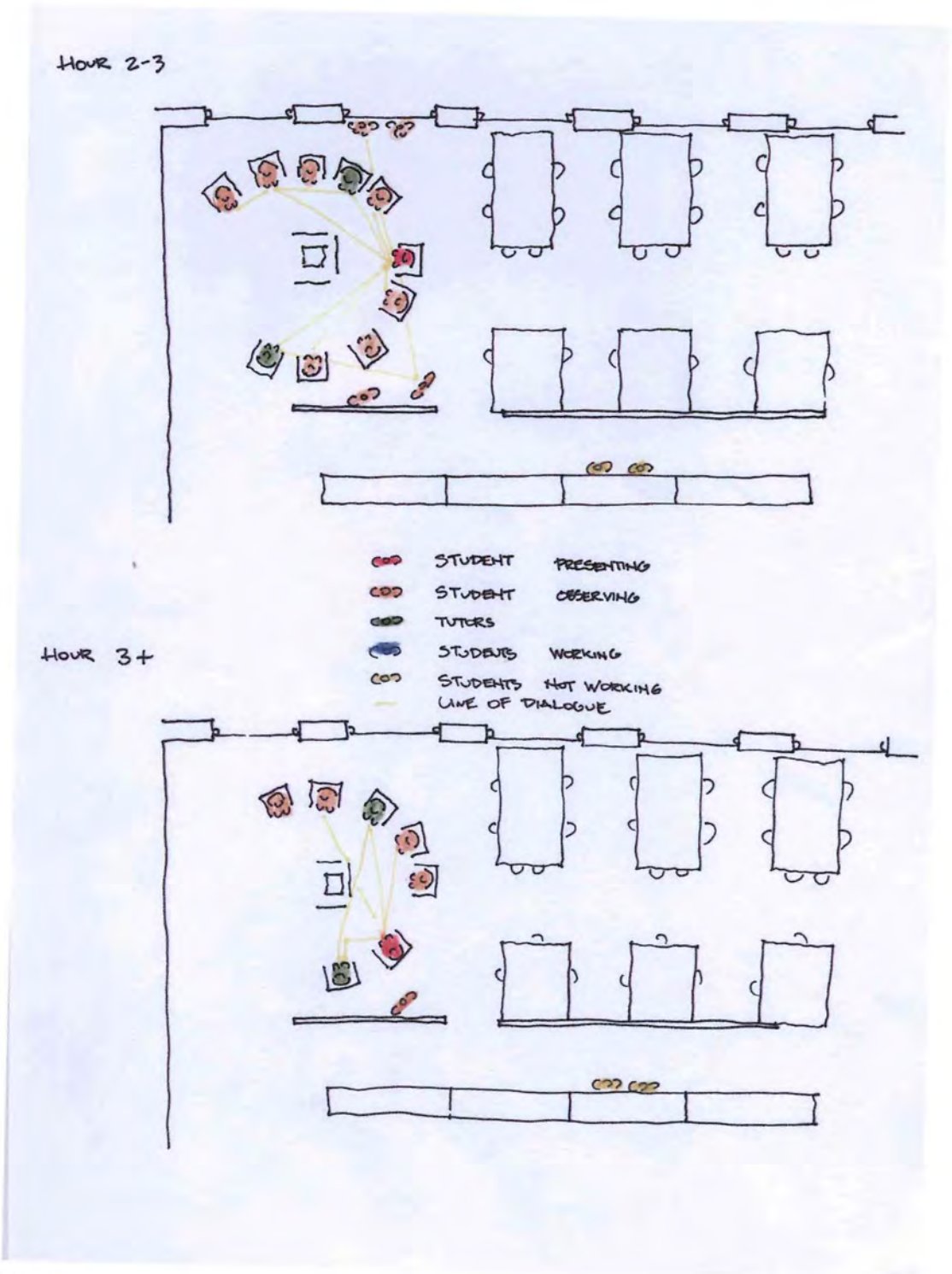

HOUR 2-3
STUDENT PRESENTING
STUDENT OBSERVING
TUTORS
STUDENTS WORKING
STUDENTS NOT WORKING
LINE OF DIALOGUE
HOUR 3+

Figure 6

The illustrations include a time frame during which it is possible to observe the movement of staff and students. As can be noted from the typical layout the students tend to disengage with the crit process as the class progresses. This is less likely to occur when the group is smaller and seated in a circle.

Student Observations:

Typically the range of results was as follows:

It was good we were all the same... It was easier to see what was going on...I saw the comments which were relevant to my own work... less intimidating...much easier to get involved in what was happening...good atmosphere-not as nervewracking.. it is good to hear other people's comments –not just the tutors

One negative voice said:

It was a bit like therapy

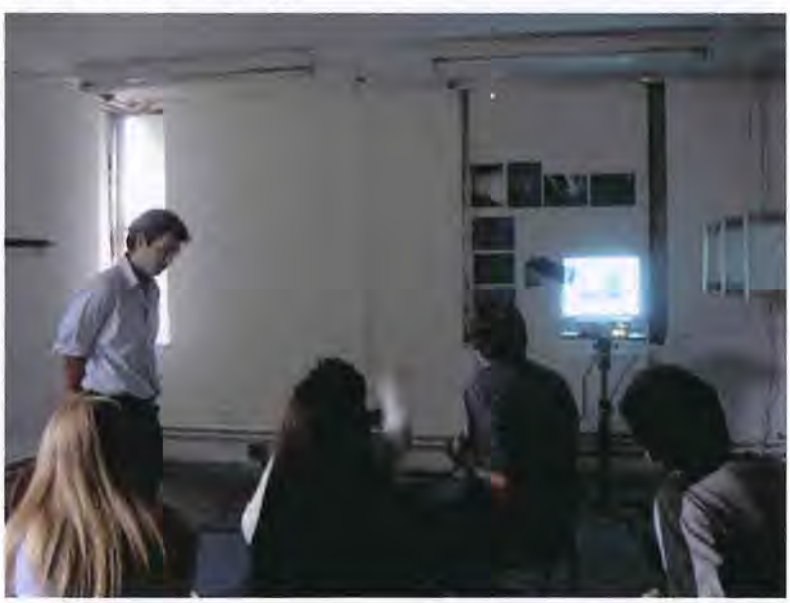


Figure 7: Image from crit at Barlett School, London.

Typical layout of crit space with student at front of presentation, next row consists of the staff, behind staff and mostly behind camera sit the student body.

Micro-action intervention no. 2

Verbal concepts .V. visual comments

The crit consists of a verbal criticism with no illustrated comments. The drawn responses are usually confined to the one to one discussions/ tutorials at the desk. In micro intervention no.2 the students were given a few short verbal comments which were summarised in a concept sketch. The sketch was to represent how the student's scheme might progress. A concept sketch is illustrated as per figure 8 as opposed to the completed drawing of the same scheme as represented by figure 9.

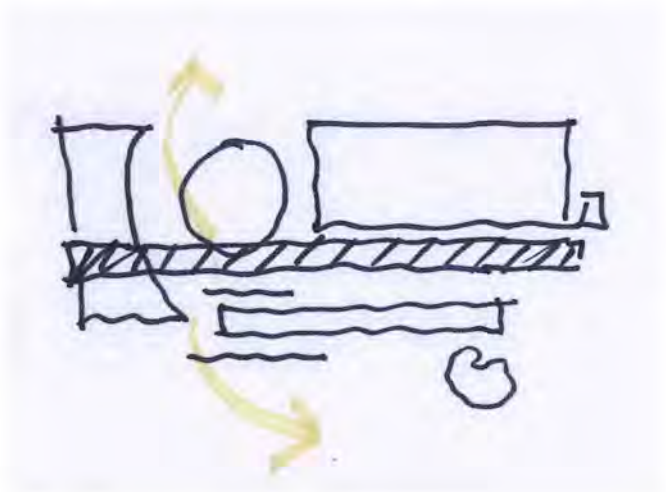


Figure 8

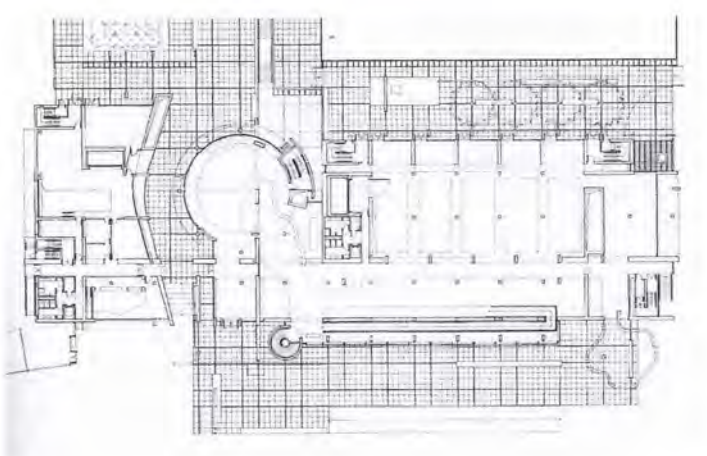


Figure 9

Following from this the student was then asked:

Do you find a concept sketch as compared to a verbal crit:
More Useful About the Same Not as Useful
in progressing your idea.

Student Comments:

More Useful	24
About the Same	5
Not as useful	1

A short summary of the typical students comments are as follows:
"Need guidance... Waste of time but gets us to look closer at scheme... There is not enough feedback in a 'normal ' crit but sketching is clear... We need this kind of feedback... It helps to hone in on the part of the building that needs developing... It leads to opening up of new ideas... Sometimes you get stuck and can get you going... Can get the ball rolling...

Sometimes you have a good scheme that is a little mixed up and the sketches can clear it up... You can see where you have made mistakes... Allows you to see problems... You can see your concept and develop it quicker... Sometimes you get so involved in a design that you cannot see it... Being able to see your idea from a different angle... Very good, sometimes a visual thing is best...You see your scheme in a new light and relate it to your ideas..."

Some other reactions were less enthusiastic

'Useful but prefer to solve it myself. Sometimes the quality of suggestion is too good feel like I am developing someone else's building. It depends on the suggestions sometimes it can compromise the design too much.'

Micro-action intervention no. 3

Who participates at crits?

Typically the tutors are the critics at reviews as illustrated in the spatial sociometry figures 1-4. In this exercise the students were told that they had to review and pass comments on the other students work at the reviews. If no student spoke then one of the students observing the crit would be asked to speak.

Student Comments:

The positive remarks were as follows:

'It helps you become more critical of work both your own and others... It was good to have a discussion... It took the tension away when it was my turn. I preferred it... It kept me listening to what was being said... I liked having to examine someone elses work... It kept me sharp and I was able to contribute... It can develop your design process...It is always good to see and comment on other's work...It was good to hear other comments on it(my work)...I enjoyed the discussion...Architecture is about building and putting you work in public, from that point of view it was good to hear other comments...'

The negative comments were as follows:

'It was a bit like school... I did not like the way we were made speak... I found it hard to think of something to say...'

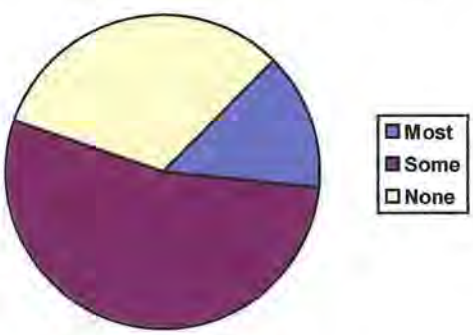
Micro-action intervention no. 4

What is remembered at a crit?

In this exercise the students were at a crit and were expected to be participating in the crit in the customary fashion. After the crit students were asked to recall the main comments made about someone else's scheme.

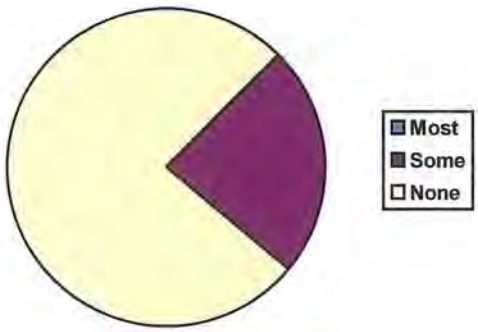
The answers were divided into three catagories:

Recalled most of the comments.	Recalled some.	Recalled none/ very little
4	15	9



Then the recall of comments on crits by students who were yet to present was tested. The result was as follows:

Recalled most of the comments.	Recalled some.	Recalled none/ very little
0	4	13



The conclusion here is that assessment and feedback on presentations is mostly lost on students who are yet to present, thus negating the theoretical belief in collective learning in the crit.

Propositions

Prepositions arising from the micro-research interventions:

Proposition 1: The size of the group influences the potential to learn.

Theory:

Quinn (2000) explores this phenonmenon in the sociometry studies.

Research findings:

Interviews: The emphasis was on the lack of ability to concentrate for a class size of forty to fifty students and from this the feeling of a lack of engagement with the crit process.

Micro action intervention no.1:

Smaller groups led to increased discussion amongst students.

Proposition 2: Groups create implied and explicit norms which influence learning.

Theory:

Jacques (1984) explored the impact of the group in terms of its learning implications.

Research findings:

The change in the micro action research where the students were expected to speak as opposed to sit and be educated caused a shift in the student and staff comfort zone. The group changed its role and the students perception moved from being one where the staff were the only one to express an opinion to one where the group would have a voice when it came to crits.

Proposition 3: Group atmosphere influences learning

Theory:

Michaelsen (2002) explores a similar phenonmenon in management teams where the initial aim of the group is not to perform a task but to 'bond' before tackling a task.

Research Findings:

Interviews: A number of interviewees spoke of how it was important to them what their peers felt about their crit and how the feeling of 'support' or otherwise was important as to how they viewed the crit experience.

Proposition 4: Power influences learning in the crit.

Theory:

Schon (1983) explores the balance of power in the studio setting and coins the term 'reflection-in-action' with both the tutor and student reflecting on a design problem as equals.

Research Findings:

Interviews: Many interviewees spoke favourably of the one-to-one sessions as being a discussion about ideas amongst equals- tutors and students.

Micro-action Research: Likewise the action research no.3 explored the idea of drawing and sketching solutions as opposed to criticising the scheme.

Proposition 5: The students learning is hampered by the tension before their review

Theory:

The student needs to be in an 'open' frame of mind to learn (Field 1993) and what is often ignored is the emotional state of the student in the learning environment.

Research Findings:

Micro-Action Research:In the action research no.4 the students were asked torecall the comments of the crit. The students who were waiting for their review couldrecall little or no information as they were too focussed on their own review to pay sufficient attention to the crit.

Interviews: The same evidence is borne out in the interviews.

Proposition 6: Primacy of the studio

Theory:

The primacy of the studio space is being challenged by the advent of new technologies. The studio as a reflective space free from the outside world of distractions not longer applies. (Till 2004, Duggan 2005)

Research Findings:

Micro Action Research: In the action research no. 1 the layout of the studio space was observed what was noticeable was the way that the students whose review was over went to the computer with internet access not to research but often to engage in pastimes.

CHAPTER 7

DISCUSSION OF FINDINGS

Introduction

The previous chapter consisted of a presentation of the qualitative and quantitative findings from the interviews and micro-action interventions. In this chapter these findings are discussed in relation to each other both to explore the commonality and diversity of the issues uncovered. This is with the aim of establishing what principles can be drawn out from the completed research. These will be examined in the context of the initial research question which was to examine and improve the method of providing students with feedback and assessment through the crit structure. The research was examined through a number of headings some held by the researcher prior to the research commencing, others that emerged in the process. The reason behind the research was to test the current method of crit based assessment and feedback, and examine what this led to in terms of knowledge acquired by the student.

The areas of research are defined as follows:

1) The ethnographical/ spatial sociometry situation of the students and staff.
2) The openness of the student to the learning experience.
3) The centrality of the crit in the learning and assessment of students.
4) The origins and methodology of teaching design.
5) The definition and protection of the knowledge and status of architecture.

For clarity these headings will be used to discuss the findings from the data.

The ethnographic/spatial sociometry situation of the students and staff

In order to examine the education of architects the studio was used as basis of the short action research based interventions as outlined earlier. The research has been carried out in a 'natural' setting i.e. the studio as opposed to the 'false' laboratory setting. In architectural education the studio is the place where the learning of the practice of the discipline of design and theory is transformed into a synthesis. As such studios form the backbone of architectural education, the research therefore takes an approach described as 'naturalism' as defined by Hammersley (1990). The researcher is involved in these exercises but it can be argued that this is necessary in exploring an improving teaching model (Habermas,1993). Habermas argues that interpretative research is appropriate to social science as critical theory is concerned with dispelling ideology and thereby promoting emancipation. This observational method of seeing the studio space in a ethnographic way is not new. The architectural critic and theorist Banham (1996) identified that the studio is the setting, and the crit is the ritual to establish the attitudes and values that are then played out in the profession.

Origins

The origins of the studio system owes its roots to the Bauhaus with the model being used today in DIT perhaps being more clearly defined in DIT and UCD in the late 1960's and early 1970's as developed in chapter 2. What the model tried to establish was a contemplative space for students to work and be guided by their tutors. What clearly has changed much since this period is the amount of technology and external distractions that are present in the studio space, such as the computers. Although they are valuable source of information, they can also prove a distraction due to computer games etc. on them. Note from the study that they way the space is used during a crit i.e. when all students are invited

to participate in the proceedings the number of students who are present at the computers. A number may be working on their projects, the majority are not.

Learning in Groups

What is apparent both from the tutors' responses in the interviews and the students' responses to the action researches is that the public nature of the crits and feedback attempts to set the ground for a group dynamic to occur (Jacques 1984). What is also apparent is that an attempt to use the entire class as one group is simply unsustainable. The students cannot maintain an interest that long -typically over 40-50 student schemes- in the discussion. The tutors, to save time, reduce their comments to a short hand of good and bad schemes due to the size of the group. If one then looks at the organisation of a crit: a final crit can typically take ten hours of tutor time add to this the fact that there are typically five/six tutors present at the final review and you have the equivalent of sixty hours staff/student contact. To put it another way, this is the equal of four semesters of one hour lectures per week. When the interviews point out repeatedly that little or no learning occurs in the environment of the review then the alternatives are worthy of examination.

Obviously the larger the group the less time each individual has to make a contribution. Quinn (2000) states that the size of the group determines and greatly affects the processes occurring within them. Using the revised layout one can by sociometry – sociometry is the term for the measurement of social relationships within groups-(Quinn 2000:p361) work out the amount of contact and discussion occurring between all the students and the staff. What is immediately apparent is the increase in the amount of student to student discussion and the reduction in the tutor talking 'at' the students in these smaller groups.

Function of groups

The role of these groups needs to be carefully monitored both with regard to the covert norms *'it just isn't done'* and the implicit norms *'the manager likes it done this way'* as described by Quinn (2000). In the architecture studio this translates into the tutor not being

overly prescriptive in how they want the group to behave. The danger for any tutor in such a set up is not so much to retain control of the group but to ensure not to abdicate responsibility: the 'diffusion of responsibility phenomenon' studied by Latane and Darley (1970). In addition to this, particularly in the early years the classes tend to fracture in to smaller units -friends and by extension non-friends-which also can be disruptive to the studio based learning.

Atmosphere

What comes across very strongly in the interviews is not only the size of the class in the crits but also that elusive term 'class or studio atmosphere'. In setting the tone for the class the role of the staff is paramount. It was described by one respondent as the most important job they, the tutors, have to do. In this the respondent meant that the class atmosphere is not just there to keep everyone happy: it becomes a tool for learning.

Tutor/student power relationship

The studio promoted as a tool of reflective learning can also become a place where values and norms can be promoted by the tutors. Schon (1983) explores this phenomenon when he describes the process as 'reflection-in-action' where he uses the example of a student learning through doing under the supervision of a studio tutor. A student has a difficulty with a design assignment and a tutor helps the student through the design problem by drawing along with the student a number of design possibilities. To Schon this method of teaching is an example of developing artistry and a reflective way of doing. In the responses from the students to drawing a solution to the scheme in the place or discussing the project at a crit the overwhelming majority of students preferred it. This is further backed up by the interviews where the respondents spoke of the one to one sessions -where typically the tutors draw and discuss the student's scheme- being the most constructive and where most learning occurred.

There was however one dissenting voice among the micro-action interventions. The student who stated that they felt that they were being told what to do is perhaps expressing a deeper problem with this approach to learning, in that this approach can also be interpreted as maintaining the status quo.

The attempt to move away from the crit and public assessment procedure back to one where it becomes more of a dialogue between staff and student is an admirable goal. However it does ignore the larger power relationship between the student and staff member. In this scenario the student can replace the fear of the crit and a bad review with a desire to give the tutor what they want. What Foucault (1980) and Gramsci (1957) refer to as 'professional hegemony'. In the move away from the crit being the centre of the learning experience and replacing it with a more round table or one-to-one tutorials may appear to be in line with the findings of the internal surveys and the one day exercises/ journal observations however it does raise the issue of the assessment and as long as the tutors are responsible for assessment and by extension act as gatekeepers to the profession they will still maintain the existing hegemony.

Distractions in the studio

In first action research the layout of the space also noted the position of the computers with internet access in the studio space. This is far removed from the idea of the studio space as a place of learning removed from society and with the aim of allowing the students space and time to think for themselves free of distractions as many schools of architecture saw the studio space in the 1960s and 1970s based on the Bauhaus model.

If you add to this mix the mobile phones, wireless internet and games consoles it is clear that it is no longer possible to maintain this out-dated model and method of working. The issue, as with all technology, is how it becomes used. When students see the internet as a primary source of knowledge and are able to draw faster on the computer as opposed to more traditional hand drawings which was the method that the tutors were taught when they

were in college, the initial reaction of most staff members is to despair or react against it. A more measured approach would be perhaps see how this can be used correctly. The students in DIT now have the ability to access all lecture series and writings from the top colleges throughout the world. The current work from Meier, Gehry or UN Studio is available instantly along with lecture series by the architectural theorists at Harvard and Columbia. The difficulty, then, is not one of access to knowledge, but of processing of the information (Duggan 2005).The role of the studio and the staff by extension needs to shift from providing a 'haven' from the outside world, since this is now no longer possible and was questionable if this was desirable in the first place, to one where the students are taught to be able to use the information available. The studio should be an environment where judgement is taught.

The openness of the student to the learning experience in the crit scenario

It is apparent from the interviews that the crit scenario does not lend its self to the students being open to learning. The respondents in the micro action researches overwhelmingly could not remember what was being said in the crits. This changes when the groups get smaller. This is in line with Brown (1998) who states that working in small groups can help students develop interactive and collaborative skills that are necessary for employment and research.

The difficulty of the formal crit structures is that it places too much emphasis on the end product. What in the early years used to be about the skills-of- hand drawings as a means of exploration and learning has become the search for the latest 3-d packages in order to impress. The seduction by use of the image has replaced the need to judge what is appropriate to use and what information is the student trying to get across.

In the crit scenario it is obvious that the student primarily focuses in on their own review both before and after it has occurred. This reduces the crit experience to one where it is simply a public assessment. It is the equivalent of correcting an examination paper in the middle of the college square with students free to wander by to see the comments being written on the examination paper. Instead the aim of the crit as outlined in the DIT education policy document is to encourage a democratic public debate between all concerned. This clearly does not happen when the student still sees the tutor in a position of power and the relationship is one of master / apprentice. Levitt (2005) stated that 'students can only reconcile the world they live in with their own needs and desires when they stop trying to gain approval for what they create'.

One can see a difference when the student reaches a maturity about the process. How this maturity is reached in the student, and by extension how it can be taught, is not clear from the findings. In some of the cases it came about as a result of leaving college for a while and then returning having worked in an office scenario. Some had completed another course prior to beginning their study. Others did not achieve this maturity until they left college. What is clear is that this maturity gives the student both a better ability to exercise judgement over their own work and to exercise control over their learning experience. This development and discovery of oneself is a large part of the student third level experience.

Illeris (2004) refers both to the power relationship between student and tutor but also to the development of the self in the learning process. From the interviews it is apparent when the students saw the tutors as equals and that their own knowledge and insight into architecture was valid they (the student) were better able to deal with the crit scenario. Illeris quotes both Piaget and Gagne in the emotional factors that have significance in learning. Coming across in the interviews was the fear and at times depression that came out of the crit based learning and assessment model.

'Life fulfilment and resistance, knowledge and emotions, assimilation and accommodation; all of these thus constitute an interwoven pattern of functions that together characterise the internal psychological aspect of learning'. (Illeris 2004: 85)

The centrality of the crit in the learning and assessment of students

What is apparent from the interviews was that for good or evil the crit informed a sizeable part of the educational experience of the respondents. The crit is the review of the learning-by-doing process. Simply put: the students 'do and learn' whereas the tutors role is less clearly defined. With the architecture course and the studio centred on the principle of learning by doing what Kolb describes 'as experiential learning'.

Kolb (1983) defines the characteristics of experiential learning as follows:

1. Learning is best conceived as a process, not in terms of outcomes.
2. Learning is a continuous process grounded in experience.
3. The process of learning requires the resolution of conflicts between dialectically opposed modes of adaptation to the world.
4. Learning is a holistic process of adaptation to the world.
5. Learning involves transactions between the person and the environment.
6. Learning is the process of creating knowledge.

The placing of the crit as the centre of learning distorts the student as the centre of the learning experience on a number of levels. As the tutors primarily do the talking at the crits it reinforces the hegemony that the student's voice is not worth listening to. By the forcefulness of the arguments that the tutors make at the crits the tutors themselves then establish a hierarchy in the mind of the student as to who is the most important. This is turn feeds back to the students in the one to one sessions with the tutors. The tutors who talk the

most and who are the most vociferous in the crit will be the ones who will be then listened to the most at these one to one sessions.

The crits become the college experience for the students. The process becomes one of constant production for the crits followed by replaying the review in anticipation of what will be said at the next review. In this role of education there is little time left for reflection and students ability to develop self-awareness. This runs against education theorists such as Schon (1983) who would argue for a more reflective method and indeed the aim of the DIT policy statement.

'Through a liberal education in the department encourages its students to become independent critical and self-aware graduates with the skills to allow for their continuing professional development. Individual diversity in architectural approach is encouraged while fostering a sense of people, place and culture.'

(Policy and Information Document School of Architecture DIT, May 2003.)

The Star System

What appears to be happening is the construction of hierarchies of knowledge from 'weak' student to 'strong' from 'weak' tutor to 'strong'. This is further played out in the production of 'star' pupils who in turn become 'good' architects. The link between the assessment method and how the graduate perceives themselves is strong. As noted from the responses many graduates were 'turned off' design by their college experiences. The collorary is also true where the graduate is reinforced in their belief of the objective 'truth' of assessment in the crit system and the star system by positive reinforcement. The dissenting voice in praise of the crit system and its method came from the one student whose academic career was a constant series of firsts in each year. Mc. Nay (1992) quotes Foucault in describing this hegemony as one that perpetuates itself as one moves from becoming a novice to a teacher through the process of adapting and subjecting oneself to the multiple modes of thought present in that organisation.

The centrality of the crit as a learning experience is then reinforced through the profession. Wilson (1996) argues that the ritual of the crit is a passage where the students are driven to conform to the social mores of the profession. The crit becomes a process where instead of taking ownership of their own design process the process becomes a one of separation from ones own work as the student waits for approval at the crit -at the hands of the tutors- and then waits for direction in the one to one sessions in order to gain approval in the crit. In this scenario the power lies firmly with the tutor as both giver of knowledge and deliverer of judgement (Vygotsky 1997, Lave & Wenger 1991).

The origins and methodology of teaching design

To examine this power relationship it is necessary to go back to its origins.
The crit has its origins in the desire of the early modernists in the Bauhaus to strip the student of all knowledge be re-born free of all pre-conceived ideas about architecture. The difficulty and danger is that the student becomes re-born in the acquired clothing of the tutors and not in their own understanding. In this process the student becomes increasingly remote from the world from which the student came. Till (2005) argues that the studio becomes a distortion promoted by the tutors where the student gains acceptance and credance through the values promoted by the staff. This is borne out in the interviews where a number of people referred to the education as being adopted into a *cult* of some kind.

'Learning is the process whereby knowledge is created through the transformation of experience'. (Kolb 1983: 38) In dealing with experiential based learning it is important to distinguish between learning from experience and learning through experience (Burnard 1990). The first involves using past experiences to gain new insights the latter consists of deliberately planned experiences to facilitate learning.

Conflict of roles in the crit

This leads onto the difficulty of teaching design. The role of the tutor is to act as teacher, mentor and facilitator for the student. All of these require a high personal level of interaction and involvement with the student. The personality of the tutor be it positive or negative comes through strongly in the experiences of the respondents of their time in college.

Additionally the tutor currently acts as assessor and critic for the student's work which involves an objectivity and distance from the student and their work. A large number of graduates in the interviews expressed frustration at the lack of a direction and method to design teaching. In common with this the tutors interviewed discussed how difficult teaching the design process is. Whereas there is common ground amongst both groups is that the basic skills drawing, model making, computer generated images can be taught there appears to be a divergence as to what aspects of design can be *taught* and what must be *caught* by the students. This gives a confusion in the minds of the tutors as well as to what their role is. Are they there to show the students how to design or are they there to criticise what the students produce?

Role of the tutor

The current model works along the lines loosely that the tutors show or direct the design at the one-to-one sessions in the studio and then act as critics in the crit scenario. This process is designed to give distance between the tutor and the student project and provide an opportunity for all students to see their work. In reality this process often causes confusion in the mind of the student as the tutor can say one thing in one-to-one sessions and then in the crit scenario say something completely different. In this situation the student often feels confused and removed from their own design. From the critics point of view it is often difficult to give that professional distance necessary between the student's project and the presented work when the tutor is already familiar with the project.

The solution experimented with tried to eliminate the two extremes of the teaching process. The replacement of the adversarial nature of the crit with a more supportive environment means that work can be discussed with a view to improvement rather than always criticism and a simple 'them and us' scenario as commented on by one of the respondents (May 2002).

Tutor as designer for student

The majority of those surveyed spoke of the frustration of being stuck in the design process. At this point the student looks to the tutor to fulfil the role of a 'specialised plumber' who unblocks the student's creative process. By extension 'good' tutors are those who can unblock the students work and 'poor' ones are those who cannot. This seems far removed from the idea of the student being at the centre of the learning experience. Rather it seems to place the tutor as the person who troubleshoots the student's work and is placed in a position of knowing 'the' solution to every design problem.

A more appropriate response would appear to accept that this frustration is part of the design process and the students need to accept this and work through it. It is what the Finnish architect Aalto used to describe 'drawing your way out of a design problem.' Levitt (2005) describes this process as the value of difficulty and through this difficulty the possibility of new understanding and new insight to the inner world of the designer. By the inner world of the designer he means the way the individual acts in the world as a designer and this leads to the beginning of true 'know how'.

The definition and protection of the knowledge and status of architecture

As outlined in a previous chapter Vitruvius placed a demand on students of architecture to study other disciplines as well as the discipline of architecture. Therefore the education of

an architect is based on understanding analogous regions of knowledge. In the pursuit of this the architect becomes a generalist. Contrast this requirement with the statement that: *'To be admitted to membership of a particular sector of the academic profession involves not only a sufficient level of technical proficiency in ones intellectual trade but also a proper amount of loyalty to ones' collegial group and of adherence to its norms. An appreciation of how an individual is inducted into the disciplinary culture is important to the understanding of that culture.'* (Becher 2001: 47). In this it is apparent that while a good understanding of how other professions work is important, it is more important to know how ones own profession functions.

Of the members of staff in both colleges (DIT and UCD) the majority are currently engaged in practice. This working in practice has enormous benefit to the students in that it ensures that the staff are current with the methods of work. However the downside is that the students are at a disadvantage in that the staff would bring a lot of their methods of practising architecture into the class as well. The difficulty arises in that the staff can promote their own developed and considered approach to architecture too directly to the students and in the process hamper the students own exploration of the subject.

One can see historical examples of this bringing of practice into the classroom in the Bauhaus ideals of modernism (Pinker 2002). The danger in this is to invalidate the students own knowledge. The students rather than explore for themselves what architecture is and their approach to design should be. Becomes in its place an imbalance in that the student produces what will please and win approval from the tutor (Piotrowski & Robinson 1998).

The other difficulty can be in the playing out of the role of master and apprentice. In this scenario the student as a shorthand develops their architecture along the lines that is likely to get the most approval from the tutors. The student examines what the tutor wants to hear and then repeats this.

This was evident in the impact that the rise of different architectural styles had on both the college and practice. The rise of post-modernism in architectural practice emerged in the late 1970s and declined towards the end of the 1980s. Architectural journals such as Lotus 11 published in 1977 promoted this style and philosophy. The end of this style was marked by other architectural journals such as Pamphlet 9 in 1987 which argued for an end to the frivolities of post-modernism.

The beginning of the post-modern style in the students thesis work in UCD coincided with the change in the teaching personnel from the 1980s. This style in college work then ended shortly towards the end of the decade as practice moved towards 'new modernism'. This demonstrates that the overlap between practice as undertaken by the tutor and teaching can be blurred. This is both the strength – relevance – and weakness – overly prescriptive – of the teacher as practitioner.

This college was not alone in this phenomenon. Till (2005) traces similar events at other colleges in the UK in the 1980s up to the present day where he observes that the architect's response to external thought and forces -be it post-modernist thought in the 1970s/80s or deconstructivist later on- is to convert this idea into form. Thus post-modern thinking becomes in the mind of an architect everything that modernism is not. The architect becomes obsessed with historical details and borrows heavily from historical buildings to make form. Architecture schools become places where these forms are experimented with by the students who are guided by the tutors who are engaged in practice. Till points out that this occurred more recently with the translation of the complexities of philosophical deconstruction into 'deconstructivist' architecture. By placing word so directly with form it is open to architectural interpretation on a simplistic level. In third level institutions the 'newer' the idea the more seductive it is and the easier it is to get published, the easier the end product is to sell.

As DIT, in line with all third level institutes becomes drawn into the commodification of education the product becomes the means of survival. This is borne out in the way that the

schools of architecture become obsessed with what they produce. The end of year shows, reviews of work by prominent external critics *become* the school and the education (Wingham,1997).

Summary

The questionnaires led to a number of short one day exercises based on the negative aspects outlined by the respondents to the crit as they experienced it. From the feedback obtained from the students who completed these exercises an improvement was possible both in the efficiency and deliverability of some aspects of the design course.

However the difficulty I personally have is the doubts in any 'new' system if such an animal can really exist. To overcome this I believe that this doubt must be owned and part of the teaching process. This can lead to a difficult and messy syllabus planning each year, but every year the teaching methods used must be re-examined in the harsh light of experience in order to improve for the following year. As such, doubt and uncertainty should be at the heart of all good tutors.

CHAPTER 8

CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter summarises the findings and presents the conclusions of the research in the context of the original aims and objectives of the study. The conclusions are outlined as follows: personal benefits of the study, benefits for students, benefits for the profession and benefits for the college. The recommendations arising from the research are discussed. The chapter concludes with an exploration of whether the objectives of the study were achieved and suggests where further research may be undertaken.

'One experiment is worth one thousand hypothesis. 'Olaf Field (2005) The micro-action interventions though relatively short in nature did reveal a broad pattern. In the actions studied the role of the staff, the historical narrative of architecture and its role in society and the definition of knowledge can all be seen present in each of the studio setting examined.

The difficulty of teaching architecture is that it is not a finite amount of knowledge that can be passed on and then measured by means of examination. Architecture, as described by Schon (1983), is an exchange of doubts rather than convictions, the difficulty comes in teaching these doubts. What is voiced as a broad principle common to all writing on architectural education is the need to allow the student to develop their own voice. The

dilemma comes in trying to separate the tutors voice from that of the student and also the natural desire of the student to please the tutor and pass the course.

The desire to pass the course is also matched by the commitment to the crit system on behalf of the staff. The research and in particular the interviews show that the crits continue until eight or nine o'clock at night as a norm. This huge commitment -when one looks at a lecture series over an academic year being typically of 24- one hour lectures and a crit comprising of two days at nine/ten hours per day- there does not appear to be enough learning outcomes for the student from the data gathered in the interviews.

If they crit system does not produce a valid series of learning outcomes for the student then the next phase in the research is to lead to further studies on what can replace the crit system. The mini-action research cycles are a broad approach in that they are attempts to explore a range of options or variations on the traditional crit rather than a deep study. The majority of these experiments met with student approval. Now these types of variations of the crit system need to be developed further.

Shortcomings of the research

The research did not achieve all of its desired outcomes. This was in part due to the wide question it asked namely: to explore alternative methods of feedback and assessment. This research did not delve deeply enough into this question and to progress this the next step would be a proposed discussion amongst staff involved in the education of architects but perhaps more specifically the studio staff . The discussion should centre on the themes of:

- course rationale
- assessment of students
- learning objectives for each part of the course

- the ownership of knowledge on the part of the student
- the responsibility of the staff both part-time and full time and the distinction between professional teachers and part-time practitioners.

I believe that such a discussion would be productive in exchanging ideas and also necessary to move the research on. It would also act as catalyst to encourage research into this area which is at the heart of the teaching of students of architecture. This is not to arrive at a definitive answer to teaching architecture. The research into the historical part of the literature review has shown that the educational model is transient and when a clearly defined method of teaching is established it only proves to be a mirage. The aim of this forum would be to begin a process where the education of architects could be constantly reviewed.

Main findings

1. The review of the literature highlighted that there is a confusion around the role of the tutor in a creative course such as architecture: is it to teach or is it to assess and criticise? Allowing the student space to find their own voice can also become confused with a 'hands off' approach to teaching.

2. The tutor /student relationship are often seen as confrontational in the present set-up. The tutor is often seen as someone whose job it is to pass judgement on the work in the crit situation and the crit is not seen to have a teaching role for the many students.

3. The tutors need to be aware of the specific needs of different students. Not all students are at the same level of maturity and self-awareness, even though one of the stated aims of

the DIT policy to develop 'self-aware' and 'self-critical' students. In order to achieve this the tutors need to act as teachers as well as architectural critics.

4. There is no clear view from the literature as to what 'creativity' is in architecture. What does come through all architectural journals and writings is the reification of the individual. From the interview data this is clearly counter-productive in establishing a collaborative learning atmosphere in the studio.

5. The interviewees raised the issue of a lack of clear learning objectives on their course and in particular from the projects set. Without an explicit learning outcome each project can be reduced to more production of work for the sake of it.

6. The more experienced architects who were interviewed raised the issue of the relevance of the crit system. A system that promotes the individual and uses the group only as a measuring device is not what is required of the contemporary architect who needs to work in teams both in an office and sole practice setting. If this is the case then the working in teams needs to begin at school level.

Next Stage for research

The early action researches were the start of the process to explore alternatives to the crit and similar exercises could be undertaken in a number of colleges to examine possibly more productive methods of education.

The thesis is in many ways a first step towards more research and as such it is difficult to reduce the data down to a set series of recommendations. However it is important to highlight the need for further research in this field and in this context the following are suggested as the next steps:

1. Clarification of the role of the tutor/critic in the review: the tutor implies a teaching role; the critic implies a judgmental role.

2. Definition of clear and explicit learning objectives for each project set by the staff in the studio system.

3. Establishment of clear guidelines for giving feedback/assessment to students. Architecture being part of the arts has the reification of the individual as part of its narrative. The crit needs to both challenge this and work for the benefit of the group to be an effective teaching method.

4. Increased awareness of the ownership of knowledge, that the project work belongs to the student and represents their level of development as an architect.

Benefits of study

Personal benefits

One of the objectives of this study was to allow myself as a teacher-practitioner architect the luxury of examining my teaching methods in a critical way. As a result of this study I believe that I have confirmed what was a 'hunch' up until now: that is that the universality of the crit system had made it seem permanent and immovable. However my reading on the subject confirmed that it is now beginning to be questioned in a number of different locations. This in turn encouraged me to become more questioning about the existing teaching methods. The micro-action interventions grew out of this curiosity combined with the data from the interviews to explore some early alternatives to the traditional crit model. The initial intention was to build on each action to arrive at a definitive conclusion. In retrospect this was neither a desirable nor even a realistic goal. Instead it has allowed me to establish more realistic aims for the next series of reflective action cycles.

Student benefits

The process of exploring alternative methods of teaching demonstrated an empathy with the students themselves. It also had surprising side effects in that the students were interested in both why one was looking at alternative methods of education, be they subtle changes only, and what the outcomes were. It gave the students an increased ownership of the knowledge process in that they felt that they were an active part of the crit/education process. In light of the experiments the crit structure was seen by the students as one that did not have prescribed format that had to be adhered to. This flexibility in the system of critting opened up the possibility to some students that not everything that the tutors said was always correct and had to be adhered to.

A number of students felt that these relatively small shifts moved the crit to being a more constructive and less destructive process.

Professional benefits

What was startling about the interview data was the passion that architects felt about the whole crit and education process after what was in some cases a gap of fifteen years. The strength of feeling and emotions that were brought to the surface perhaps more than anything else highlighted the need for this study to be undertaken and indeed the need for further study. What also emerged was the need for the education system to allow the students to prepare for professional life. The difficulty and opportunity that architectural education presents is that the course has a specific goal in mind i.e. to produce a student who can become an architect. But that also should not exclude the possibility that the student may wish to do otherwise with their career. The crit which absorbs a sizeable amount of both student contact hours and indeed the student's own experience needs a more clearly defined purpose to be relevant.

College benefits

The issue of amount of time spent on teaching needs further exploration. If it is common to spend 18 hours reviewing/critting work by each member of staff over a two day period

perhaps this also suggests an over-teaching on the part of the staff. The staff need to explore other options to review work. The reviews need to be shorter, with the clearly defined learning objectives for the project set at the start and set objectives at the start of the year. Then the reviews could focus on how the whole class dealt with these objectives. The individual projects could still receive a mark and comments by the tutors but not necessarily in a public format. This could also eliminate the perceived subjectivity of the marking i.e. one tutor speaking more loudly than the others having a larger input into the assessment. A reduction in teaching could also have the effect of increasing the student's ownership of the knowledge.

Conclusion

The aim of the education of the architect is to prepare them for a lifetime of learning. If one looks at the increase in the amount of available construction materials over the time period shown (Figure 10) as an indication of the explosion of information available. Similar comparisons could be made to design and theoretical information. It demonstrates that it is not possible to come close to covering the amount of information available to the student. The role of a third level education is to prepare the student to learn for themselves. This self-learning has to occur within the college itself before moving on to practice.

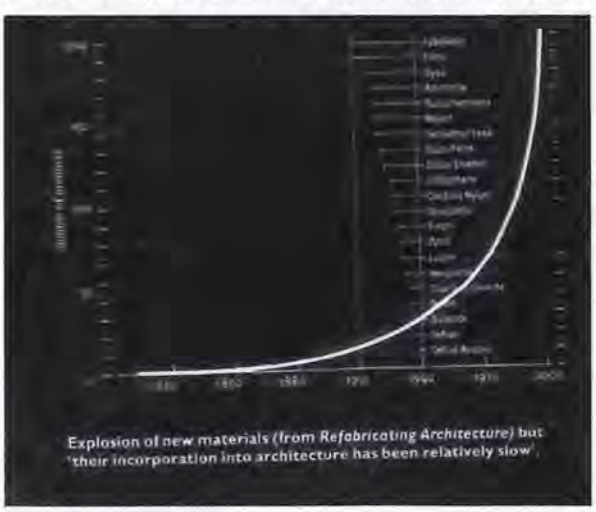


Figure 10

The world of architectural education is obsessed with what it produces. This is evident in the end of year shows and exhibitions held by all schools of architecture. It is inevitable and laudable that all schools being involved in a visual art would want to, and indeed should, display and promote the student's work. However, the difficulty this presents is that it places too-much emphasis on output and product and not enough on how this output is achieved.

In order to gain distance from the present system more doubt rather than conviction needs to be allowed. This doubt is the heart of education. As Till (2005) cites Freire, without doubt, teaching becomes the inculcation of orthodoxy the *'banking of education, where the scope of action allowed to the students extends only as far as receiving, filing and storing of deposits'*. Where there is no doubt, a power structure is established with the tutors as the keepers and givers of knowledge and the students the recipients of knowledge. The tutors as the makers of the rules assert their authority and the students learn and are rewarded by how well they understand the rules.

Doubt allows the students to develop their own reflective intelligence where each student develops their own thinking. The student/ graduate architect needs this reflective thinking both to understand the demands of the information society and divided societies. This ability to develop 'reflective thinking' leads to an ability in the student to recognise the underlying biases that an architect may have and allow them to develop a critical interpretation of these biases. This in turn allows the student to be aware of the power structures that control their own education and society at large. By extension this will also change the power structure in the college with the roles of the tutor and the student beginning to merge. The student having ownership of their own knowledge can use the tutor to act as a facilitator in their own critical exploration.
'The greatest triumph, but also the greatest sacrifice for a teacher is to be no longer needed' (Till,2005: 180).

Bibliography

Akin,Omer. (1990). *Psychology of Architecture Design.* London: Pion.

Anthony, K.H. (1991). *Design Juries on trial- the renaissance of the design studio.* London: Van Nostrand Reinhold.

Apple, Michael (1995). *Education and Power.* New York: Routledge.

Baker, Carolyn, (1997) 'Membership Categorization and Interview Accounts', in *Qualitative Research Theory, Method and Practice.* David Silverman (Ed.). London: Sage Publications Ltd.

Banham, Reyner (1975). *The Age of the Masters.* USA: Architectural Press.

Banham, Reyner et al (1996). *A Critic Writes: Selected Essays.* University of California Press.

Barrows, Howard S. (1988) - *The Tutorial Process.* Southern Illinois University School of Medicine.

Bassey (1999) *Case Study Research in Educational Settings.* London: Open University Press.

Bauer, Martin W. & Gaskell (2000) *Qualitative Researching with Text Imaging and Sound.* New York: Sage.

Becher, Tony. (2001) Academic Tribes and Territories.: Intellectual Enquiry and the Cultures of Disciplines.London: Open University Press.

Berger, P.L. and Luckmann, T. (1967) *The Social Construction of Reality.* New York: Doubleday.

Berry, Kathleen (2000) *The Dramatic Arts and Cultural Studies : Educating Against the Grain (Critical Education Practice, Volume 2).* Falmer Press

Brown, Nina (1998). *Psychoeducational Groups.* Chicago: Accelerated Development.

Broadbent, Geoffrey (1994). *Architecture: Process and Composition.* London: Academy Editions.

Burnard, Philip (1990), *Learning Human Skills.* London: Butterworth Heinemann.

Calkins, Robert (1998) *Medieval Architecture in Western Europe: From A.D. 300 to 1500.* New York: Oxford University Press.

Cohen, Louis, Manion, Lawrence and Morrison, Keith (2001). *Research Methods in Education.* New York: Routledge Falmer.

Coughlan, David & Brannick, Teresa (2001) *Doing Action Research In your own organisation.* London: Sage.

Coleman, Marianne & Briggs, Ann (2002)
Research Methods in Educational Leadership and Management (Educational Management Research & Practice series). London: Sage.

Craft, Anna & al. (2001) *Creativity in Education* Continuum International Publishing Group

Crotty, Michael.(1998). *The Foundations of Social Research.* London: Sage.

Cross, Nigel (2001). *Designerly ways of knowing: Design Principle Versus Design Science.* Design Issues: Vol.17 No. 3 Summer 2001 p.54-55

Creswell,John (2002). *Research Design : Qualitative, Quantitative, and Mixed Methods Approaches* London:Sage.

Davis, Andrew (1998) *The Limits of Educational Assessment.* London: Blackwell Publishers.

Davis- Mc.Carter, Robert. (1987) *Pamphlet Architecture No.12.* Princeton New York:Architectural Press.

Denzin Norman K & Lincoln Yvonna S eds.(2003) *The Landscape of Qualitative Research.* California:Sage.

DeBono, Edward (1967), *The use of Lateral Thinking.* International Centre for Creative Thinking

Doidge, Charles et al (2000) *Crit- An architectural student's handbook.* London: Architectural Press.

Duggan Fiona (2005). *The Changing nature of the studio as an educational setting. Importance of the studio space*: PCEBE Transactions, Vol.1, Issue 2, December 2004, pp.70-76.

Droste, Magdalena, (2002) *Bauhaus 1919-1933* Taschen.

Elliott, John (1991) *Action Research for Educational Change*. London:Open University Press.

Field, Kay, Kaufman Edward & Saltzman Charles Eds. (1993). *Emotions and learning reconsidered* USA: Gardner Press.

Field, Olaf (2005) *Address at presentation of awards for writings in architectural education.* DIT March 16th 2005.

Frampton, Kenneth (1999). *Modern Architecture: A Critical History*. London: Thames & Hudson.

Freire, Paulo (1970 ,2000 ed). *The Pedagogy of the Oppressed.* Continuum International Publishing Group

French, M.J. (1988) *Invention and Evolution: Design in Nature and Engineering*.Cambridge University Press.

Foucault, Michel. (1980) *Power/Knowledge: Selected Interviews and Other Writings 1972-1977.* Pantheon.

Foddy, William (1999). *Constructing Questions for Interviews and Questionnaires*. Cambridge: Cambridge University Press.

Glasner, Angela & Brown, Sally (Eds.) (2000). *Assessment matters in Higher Education*. London: Open University Press.

Gramsci, Antonio (1957) *The open Marxism of Antonio Gramsci: Translated and annotated by Carl Marzani.* London: Cameron.

Goffman, Erving. (1959). *The presentation of self in everyday life*. New York: Anchor.

Goffman, Erving (1976) *Interaction Ritual* Chicago:Aldine.

Gropius, Walter (1919) *Program of the Staatliche Bauhaus in Weimar*. Staatliche Bauhaus. Weimar.

Hammersley (1990). *Classroom Ethnography: Empirical and Methodological Essays.* London: Open University Press.

Habermas , Jurgen (1993). *Justification and Application: Remarks on Discourse Ethics.* Boston: MIT Press.

Hertzberger Herman (1991) *Lessons For Students Of Architecture.* 010 Publishers Netherlands

Holl, Steven (1991) *Anchoring.* Princeton Architectural Press. US

Jacques, David (1984). *Learning in Groups.* London:Routledge.

Illeris, Knud (2004). *3 Dimensions of Learning.* Kluwer Academic Publications.

Kincheloe, Joe & Berry, Kathleen.(2004). *Rigour and Complexity in Educational Research. Conceptualisng the bricolage.* London:Open University Press.

Kvale, Steinar (1996). *Interviews: An introduction to qualitative research interviewing.* Sage Publications

Kolb, David (1983). *Experiential Learning: Experience as the Source of Learning and Development.* Financial Times Prentice Hall.

Latane, Bibb & Darley, John (1970). The unresponsive bystander. Appleton-Century, USA.

Lave, Jean and Wegner, Etienne (1991) *Situated Learning:Legitimate Peripheral Participation.* Cambridge University Press.

Levitt, Andrew (2005). *Writings in architectural education no.26 A designer's guide to the resources of the psyche.* EAAE

Mabardi, Jean Francois & Girelli, Renato Ed. *-National Systems of Higher Architectural Education in Europe* (1997) Milan:EAAE.

May, Tim (2002). *Qualitative Research in Action.* London: Sage.

Maturana, Humberto & Varela Francisco (1987). *The Tree of Knowledge.* Boston:Shambala.

Mc.Nay, Ian ed. (1992). *Visions of Post-Compulsory Education.*Society for Research into Higher Education.

Mc. Niff, Jean (1998) *Action Research Principles and Practice.* London: Routledge.

Mc. Niff, Lomac Pamela & Whitehead, Jack (1996) - *You and Your Action Research Project.* London: Routledge- Falmer.

Michaelsen, Larry. (2002). Team Based Learning. A transformative use of small groups. USA: Praeger Publisher.

Milne, John (1998). 'Questionnaires: Some Advantages and Disadvantages' in Harvey, Jen (Ed.) *Evaluation Cookbook.* Edinburgh: Heriot-Watt.

Nickerson, Raymond S., Perkins, David N., Smith Edward E. (1985) *The Teaching of Thinking* Lawrence Erlbaum Publishers.

Nicolin, Pierluigi (1976).*Lotus 11* . Venice, Italy: Fantongrafica.

O'Connor DK & Grimes Brendan eds. (2004) *The Hand of the Master-* Recent DSA Projects. DIT

O'Regan, John (1983). *Annexe 4.* Gandon Publications/UCD

Pallasmaa, Juhani (1996) - *The Eyes of the Skin.* London:Academy Editions.

Pevsner Nikolaus (1950, 1990ed.) *An Outline Of European Architecture.* London: Penguin.

Pinker, Steven (2002) - *The Blank Slate.* London:Allen Lane.

Piotrowski, Andrzej & Williams Robinson, Julia eds. (1998) - *The discipline of Architecture.* Standford Anderson. University of Minnesota Press. Minneapolis.

Quinn, F. (2000) *Principles and Practice in Nurse Education.* Nelson Thornes.

Radnor, Hilary (2002). *Researching Your professional practice: Doing Interpretive research.*London:Open University Press.

Rasmussen, Steen Elier (1964). *Experiencing Architecture.* MIT Press

Rowntree, Derek (1977 this edition 1987) *Assessing Students* London: Kogan Page

Rust, Chris (2002) www. oxford brookes.ac.uk.
[Accessed 13.03.05]

Schon, Donald (1983). *The Reflective Practioner: How Professionals Think in action.* Basic Books, US.

Schnier, Jorg (2005). *On the Interdependency of thinking mode and design strategy.* Extract from conference proceedings Between Research and Practice Published 2005 DIT.

Stevens, Dominic(2004). Domestic Dublin: Gandon Publications.

Tessmer, Martin (1993, this ed.1998). *Planning and Conducting Formative Evaluations.* Kogan Page.

Till, Jeremy (2005). *Writings in Architectural Education no.26. : Lost Judgement.* EAAE.

Toohey, Susan (1999). *Designing Courses for Higher Education.* The Society for Research into Higher Education & Open University Press.

Voelker, William (1985) - 'Psychological Aspects of the Design Process' in Reinke, Christine (Ed) *Crit XV* American Institute of Architecture Students. New York.

Vygotsky L.S. (1997). *Educational Psychology* CRC Press.

Watkin, David (2000). *A History of Western Architecture.* Watson-Guptill Publications. New York.

Wegner, Etienne (1999). *Communites of Practice: Learning, Meaning and Identity.* Cambridge University Press.

Wiggins, Grant (1998). *Performance Assessment in Action.* Jossey-Bass Inc. Publishers.

Wingham, Ivana (1997) - 'Whose knowledge is it anyway?' in Cairns, George & Worthington, John (Eds) *The Manchester School of Architecture- Perspectives on Architectural Education.* Pub. IAAS University of York.

Wilson, Kenneth (1996). *Redesigning Education.* Teachers College Press.

Wolfe, Tom (1980,1999 ed.) *From Bauhaus to Our House.* Grantham. New York.

Wragg, Tom Chapter 9 p.143-158 *Interviewing* . Coleman & Briggs (2002)